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Opinions on Prof. S. K. DAS'S

THE ECONOMIC HISTORY OF ANCIENT INDIA

FIRST EDITION

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"The book is written in a nice methodical way and the Western Indologists should welcome such Indian competition in the field. From start to finish it is evident that the author has thoroughly mastered his subject."
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8. Dr. A. B KEITH of the Edinburg University, Scotland :—
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10. The AMRITA BAZAR PATRIKA :—Prof. Das has exhibited an uncommon degree of critical and analytical skill and the result has been the production of a book of rare worth, sure to prove interesting as well to the University students as to the general public."

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DEDICATED
TO
THE SACRED MEMORY OF
THE LATE SIR ASHUTOSH MUKHERJI
IN HUMBLE APPRECIATION OF
ALL THAT HE HAS DONE
FOR THE CAUSE OF
ANCIENT INDIAN HISTORY AND CULTURE.

CONTENTS

Introduction	...	...	...	...	...	1X
Chapter I.						
The Palæolithic Age		...	...	...	...	1
Chapter II.						
The Neolithic Age		...	...	...	...	3
Chapter III.						
The Copper Age		...	...	...	...	7
Chapter IV.						
The R̥gvedic Age		...	...	...	...	22
Chapter V.						
The Brāhmaṇa Period		...	...	...	...	81
Chapter VI.						
The Age of Gautama Buddha			...	...	...	179
Index I. Sources with the Subjects		...	...	...	...	281
Index II. Subjects	...	...	...	...	...	324
Index III. Proper Names	...	...	...	...	...	335

PREFACE

At the beginning of the session 1922-23 I delivered a series of lectures on "The Economic History of Ancient India" to the students of the Kalikātā Vidyāpīṭha and as a token of my humble connection with that noble institution I published those lectures in January 1925.

In bringing out this second edition I have necessarily to make substantial additions and alterations so much so that the work has to be published in two volumes. I have avoided on principle all theoretical disquisitions throughout this work. It has been my aim rather simply to present the facts in a connected manner with a view to illustrate, as far as possible, the gradual development of economic progress from the earliest times. I have always indicated the sources of my information in order that my conclusions may be tested with reference to the authorities on which they are based. In this connection I beg to acknowledge the invaluable help and guidance I have received from the researches of Professors Zimmer, Macdonell and Keith, Drs. Fick and Rhys Davids and Professor Hopkins who have dealt with the economic data on the basis respectively of the Vedas, the Jātakas and the Epics.

I take this opportunity of expressing publicly my thanks to those savants and scholars who have favoured me with critical appreciation of the first edition of this work and to the authorities of the Benares Hindu University and the University of Calcutta who immediately after its publication kindly recommended it for introduction into their Post-graduate classes in Ancient Indian History and Culture.

Prafulla Chandra College

Bagerhat

The 3rd July 1937.

SANTOSH KUMAR DAS.

INTRODUCTION

The starting point of all human activity is the existence of wants. To satisfy hunger and thirst, to obtain shelter and to provide clothing were the chief aims of primitive man and constitute even to-day the motor-forces of all society. As man develops, his wants grow in number and refinement. However civilised he becomes, his material welfare is the foundation on which the entire structure of his larger life is built up. Ever since his creation man has waged an unceasing struggle not only to free himself from the vagaries of Nature but also to modify and utilise the forces of Nature to his own account. Any one, therefore, who wishes to engage in the study of human society can hardly neglect man's relations to his material environment, so essential to his life and progress. A study of this material basis will also enable him to disclose the influence of forces otherwise unnoticed and thus to throw new light on the explanation of the past or the moulding of the future.

Yet strangely enough this material or economic basis of human existence hardly drew the attention of historians except incidentally. With congenital human weakness for the uncommon and the extraordinary, they generally emphasised the cataclysmic factors in society like war and exaggerated the importance of the Supermen, the Heroes of History. As Dr. Price says "Political changes and constitutional developments, the rise and fall of dynasties and statesmen, the vicissitudes of military and naval conflict filled the canvas and presented tempting opportunities for able draftmanship and rich contrasted colouring." Thus the normal and actual development of human society, through the arts of peace and co-operation has been overshadowed by the lurid clouds of war and political strife. If, therefore, we want to re-establish History on her only true pedestal of truth and humanity, every individual writer and teacher of history must immediately start the work of expiation and search into the intimate relation that subsisted between Man and the surrounding Nature which exerted the most powerful influence on the evolution of human life and thought.

As regards this material environment we must take into account the physical features of a country, its geographical position and climate, the

nature of its soil, its productive capacity, the conditions of its food supply etc., and before we proceed to a study of the economic history of Ancient India a consideration of these with special reference to India must engage our attention so that we may see to what extent man in Ancient India was permanently affected by the material basis of his existence.

According to Geologists India was represented in Palæozoic times by the central plateau and the northern fringe of the Aravalli mountains. To its north lay a shallow sea covering the area of modern Afganisthan, Rajputna and the Himalayan regions. In Tertiary times the Gondwana beds were formed extending over Assam and the Eastern Himalayas and this nucleus of India was connected with the continent of Africa by a stretch of dry land. At this time as a result of volcanic cataclysms the Gondwana continent was broken up and an area of 200,000 square miles was covered with lava, thus resulting in the formation of the Deccan. In the Pliocene period due to volcanic activity there commenced the great upheaval to the north, resulting in the formation of the Himalayas. The deterioration of rock on both sides due to the action of rain and glaciers, the collected alluvium of ages brought down by the hill-torrents filled up in course of time the shallow gap and thus gradually the river systems of the Indus and the Ganges were formed and India attained roughly her present shape.

Thus formed India became remarkable for her natural boundaries, being surrounded on all sides by mountains and seas. In ancient times the sea was a formidable barrier against foreign invasions. Crafts from Egypt or Mesopotamia, from China or Java could come with favourable wind to trade with India but the idea of conquest could not be conceived. For the Arabian Sea or the Bay of Bengal was not very easy to cross and there was no country in the East or the West which had a sufficiently strong fleet to undertake the conquest of India. The mountains no doubt contained passes but they could be crossed with difficulty, as most of them were very narrow, high and therefore covered with snow during greater part of the year. The narrowness of these passes made it impossible for barbaric hordes to come in sufficient numbers to overwhelm, far less to obliterate, the settled civilisation of previous ages. Thus her natural boundaries which

made India virtually immune from foreign invasions not only rendered the Indian civilisation at once original and unique in character but also allowed time to her socio-economic institutions to become deep-rooted and in a great measure able to withstand the modifying influences of later invaders.

The socio-economic life of man is equally influenced by the climate and configuration of his habitat. His food supply, which depends on the climate and soil influences him directly and regulates his efforts. Moreover, climate influences his capacity for labour. People of warmer regions are less active and vigorous than men of cooler regions. The Indo-Aryans of the Vedic Age when they lived in the cooler climate of the Punjab and U. P. were famous for their martial prowess and spirit of adventure which were for a long time kept alive by the necessity of holding their own against the non-Aryans. But when after the resistance of the non-Aryans was broken they had settled in the Gangetic plain for a certain amount of time the enervating influence of the warm climate told upon them and made them languid and fond of repose and thus unable to follow habitually any standard of good workmanship or to soar always the height of workmanship of which they were capable. In warmer latitudes early marriages are always universal and hence the rate of birth is very high and consequently we find 'a low respect for human life'. For this reason Indo-Aryan society of the Vedic Age is not marked by early marriage which grew up along with the pernicious custom of infanticide in the warmer parts of the country. Men of warmer regions require simple food, clothing and housing while people of cooler regions require strong drink and nourishing food to sustain them and such clothing and dwelling house as may protect them against weather. Hence in the comparatively drier regions the entrance and enclosure aspects of the dwelling house were more prominent and the references to these features and their figurative use accordingly occur in texts like the R̥gveda which were mainly of Midlandic origin. With the march of Aryan arms into the rain-flooded lower Gangetic valley the roof naturally had to be built up carefully and we therefore find much care bestowed on the construction of the thatched roof in the house-construction outlined in the Atharvaveda, which is pre-eminently a book of the Angirāsas, who are definitely located in and

associated with the very same lower Gangetic provinces in Pauranic tradition. For similar reasons the Vedic Aryans who lived in the cooler climate of the Punjab and U. P. wore dress mostly made of wool and ate food in which wheat, wine and meat formed a principal part. With the progress of Aryan arms into the warmer eastern parts of the country we find a growing dislike for wine and meat, specially beef and the substitution of rice for wheat as food and of linen, cotton and silk for woolen dress.

Owing to the rigours of climate, however, the realms of snow in the Himalayan regions long remained devoid of culture and economic progress while in the rainless and very hot climate of the sandy desert of Rajputna man long remained a semi-nomad moving from place to place in search of good pasturage for his flock. In the Indo-Gangetic plains, on the other hand, the genial climate (which is 'milder than the climate of most other countries in the same latitude'), the rich soil and the large navigable rivers have produced their natural effects. Progress of agriculture became rapid and settled life began very early with all its concomitants—land system, village system, etc. Prosperous cities sprang up on the banks of rivers which afforded every facility for trade and communication while the abundance of agricultural and mineral wealth led to an early growth of industry, and the navigability of the rivers coupled with a long coast-line gave birth to maritime and trading activity. Under the glaring tropical Sun the moist soil became fertile beyond imagination, producing for man in lavish abundance all that he needs for life. But it also subdued the mind with the overwhelming force of its fecundity. It could not have been otherwise than that the exuberance of tropical Nature should have captivated the mind of man, stirring up his imagination, filling it with brilliant designs or patterns for his handiwork and fostering in him a love of contemplation and luxurious ease. Indeed the genial climate and the rich soil bringing the means of subsistence within easy reach left men sufficiently at leisure to develop the higher arts of civilisation.

Climate determines not only the productive activity and standard of living of man but also the productivity of his fields and the nature and amount of his harvests. Wheat, for instance, which requires a cool climate

is the principal crop of the Punjab while rice which flourishes in warm but damp regions is the chief crop of the lower valley of the Ganges. Cotton, hemp etc., have likewise their localised area in keeping with climatic causes. Climate thus exercises a direct influence on agriculture and an indirect one on industry.

India has been blessed with different varieties of soil which combined with the great variety of physical features, climate and rainfall enable her to produce almost every kind of vegetable life, so that agriculture naturally became the mainstay of her people from time immemorial. Among the four important varieties of soil in India the alluvial soil is usually rich in phosphoric acid, potash, lime and magnesia and is suitable for the growth of kharif and rabi crops. The trap soils which occupy the next place of honour produce, when porous and light as on uplands and hill-slopes, millets and pulses and when thick and more fertile as in the low lands, cotton and wheat besides millets and pulses. Regar or black cotton soil, supposed to be of volcanic origin is highly compact, tenacious and retentive of moisture and is therefore particularly favourable to the growth of cotton and rabi crops though kharif crops also are conveniently grown in many cases. Crystalline soils which widely differ in different provinces agree in being generally deficient in nitrates and phosphoric acids. "The clayey and brownish loams of the low lands are however fertile" and favourable to the growth of a great variety of crops, principal among them being rice.

India is equally famous for her vast forest areas. The Vedas speak of forests repeatedly. The Rāmāyaṇa describes at length the forest region to the east and south of Mithilā and speaks of the Pañchavaṭi forest and the celebrated Daṇḍakāraṇya. In the Buddhist literature we read of the Andhavana of Kośala, the Sitāvana of Magadha, Pacinavaṃsa-dāya of the Sākiya territory and of the Mahākalinga forest. Besides helping the progress of agriculture by storing up rain-water in the soil and by keeping the atmosphere sufficiently cool so as to cause the fall of rain when rain-bearing clouds pass over them, these forests supplied an essential part of the economic needs of the people. They provided them with wild rice (nivāra), esculent vegetables, fuel and with the materials for the construction of houses, chariots, boats, domestic furniture, sacrificial implements and

animals. They were a constant source of supply of medicinal herbs and plants as well as of sacrificial grass. They also supplied the people with aloe, bdellium, spikenard, resin, comphor, sandalwood, lac, hides, fruits and honey.

India is also blessed with the soil and climate capable of bearing animals useful to man. From the economic point of view the domestic animals are more useful than wild ones. Of the former horses and elephants were used for riding and transport purposes, both in peace and war ; asses, mules, bullocks and buffaloes were used as beasts of burden or in drawing waggons while the horse and the bullock helped in the cultivation of the soil. The cow, sheep and goat supplied the people with milk or with flesh and hides. The cow-dung was used as manure or as fuel in the form of cow-dung cakes while the wool of the sheep and the goat was made into blankets. The people obtained a supply of musk from the musk-deer, chāmaras from the tail of the yak and skins from the wild boar, the wild deer and the black antelope. The tusks of wild elephants, skins of the tiger and the lion and the horn and bones of some of the animals were also used for various purposes.

The Greeks when they came to India were struck with the mineral wealth of India whose importance in the economic development of the country could never be exaggerated. Gold was obtained by Indians even in prehistoric times not only from river-washings but also from gold-bearing quartz and by the end of the Vedic period they became familiar with zinc, lead and iron in addition to gold, silver, copper and tin. In the words of Megasthenes "The soil too has underground numerous veins of all sorts of metals, for it contains much gold, silver, copper and iron in no small quantity and even tin and other metals which are employed in making articles of ornament and of use as well as the implements and accoutrements of war" (Bk. I. Fragment 1. Cf. Diodorus II. 36). Diamond and salt mines existed and varieties of precious stones and oyster pearls from pearl-beds on the sea-coast fetched a high price in the western markets.

To crown all, India occupied a position of great advantage, almost at the centre of the Eastern Hemisphere and at the head of the Indian Ocean, so that her trade-routes radiated in all directions—westwards for

Arabia and Egypt, south for Ceylon, south-west for south Africa, and south-east for the Malaya Archipelago and the Far East. No doubt the Indian coast-line is very poor in indentations and land-locked bays but in ancient times when the size of trading vessels was not so large as in our days a large number of fair weather anchorages were available as is proved by the later evidence of the *Periplus of the Erythrean Sea*. The ancient mariners took advantage not only of the monsoons but also of the surface currents or drifts which even now affect the coasts of India. Thus both the East and the West came to be the theatre of Indian commercial activity and gave scope to her artisans and merchants. As Sir William Hunter well remarks "From the earliest days India has been a trading country. The industrial genius of her inhabitants even more than her natural wealth and her extensive sea board, distinguished her from other Asiatic lands. In contrast with the Arabian peninsula on the west, with the Malaya peninsula on the east or with the equally fertile empire of China, India has always maintained an active intercourse with Europe" (*Indian Empire*, third edition, p. 958). As a consequence she had the balance of trade clearly in her favour, a balance which could only be settled by the export of precious metals from the countries, commercially indebted to her. For a genial climate and a fertile soil, coupled with the industrial genius of her people and a judicious distribution of land among all classes made India virtually independent of foreign nations in respect of necessities of life while the ideal of simple living and high thinking must have rendered the secondary wants of the mass of the people very limited in number. Thus has she been for many centuries the final depository of a large portion of the metallic wealth of the world. It was this flow or "drain" of gold into India which so far back as the first century A. D. was the cause of alarm and regret to Pliny. It was probably also the same flow of gold into the country that even earlier still in the fifth century B. C. enabled the small Indian satrapy of Darius to pay him 360 Eubolic talents of gold, worth fully £ 1,290,000 and constituting about one-third of the total bullion revenue of the Asiatic provinces (*Herodotus III*).

THE ECONOMIC HISTORY OF ANCIENT INDIA.

CHAPTER I.

The Palæolithic Age.

“ The pleasant belief of poets that primitive man enjoyed in an earthly paradise a golden age free from sin, sorrow, want and death finds no support from the researches of sober, matter-of-fact science. On the contrary, abundant and conclusive evidence proves that the earliest man whether in India, Europe or elsewhere were rude savages, cowering for shelter under rocks or trees or roughly housed in Caves and huts.”¹ He does not know how to pasture cattle or to cultivate the land. He does not know private property in land and division of labour. He was ignorant of any metal and even of pottery. He was dependent for tools or weapons of all kinds on sticks, stones and bones. The sticks of course have perished and the bones have mostly shared the same fate on account of the white ants. The stone implements laboriously shaped by chipping into forms suitable for hammering, cutting, boring and scrapping are found in large numbers in many parts of India. Apart from the Burma find containing stone implements “ showing distinct traces of having been worked by man ”² the Godavari flake furnishes “ evidence in India of the existence of man at a much earlier period than Europe.”³ According to Obermaier the Godavari flake was probably used in scraping the bark from branches and smoothing them down into poles ; while the rough Coup-de-poing type as we get in Nerbada is well adapted to dividing flesh and dressing hides. The Godavari and Nerbada finds are generally accepted as Pre-Chellean⁴ to indicate their Chronological Correlation with Europe.

¹ Oxford History of India — Vincent A. Smith, p. 1.

² Dr. Keith in the Records of the Geological Survey, Vol. XXXVII. p. 102.

³ Mr. H. F. Blanford in the Proceedings of the Asiatic Society of Bengal, 1867, p. 144.

⁴ Osborn in his Men of the Old Stone Age, 1918, pp. 129—30 dates the Pre-Chellean industry at 125,000 years.

At the outset the occurrence of rocks suitable for fashioning tools and weapons no doubt played a great part in the selection of habitation sites by early Palæolithic Indians. Quartzine stone is specially suitable for the making of tools and weapons and therefore they mustered strong in the Cuddapah, Guntur and Nellore districts and the neighbouring tracts of Madras where quartzite abounds. As large migrations ceased and comparatively settled life began, they developed æsthetic instincts in the choice of colours and progressed in craftsmanship. A distinct progress is discernible from the Burma find to the Godavari flake which is "formed from a compact light-coloured agate"⁵ and the more southern the find the better the finish. The proximity of rivers to rocks highly suitable for implements also helped them in the selection of habitation sites. The palæoliths obtained from Dhenkenal, Angul, Talchir, Sambalpur, Chakradharpur, Nuagarh, Ghatsila, Morhana Pahar, Partabgunj and Jubbalpur unmistakably prove that the banks of the Suvarṇarekhā, the Sangai, the Bijnai and their affluents flowing eastwards as well as other rivers draining into the Ganges or its affluents north-eastwards from high plateaux were as much centres of palæolithic culture as the South Indian rivers. Probably also in some cases Palæolithic settlements sprang up near by lakes. At Heera and Chik Mulungi, about twenty miles above Kaira a large variety of weapons has been found which belong to this age.

In the Billa Surgam Caves of Karnaul at least two hundred bone weapons and implements have been found. Awls, many kinds of arrow-heads, small daggers, scrapers, chisels, gouge, wedges, axe-heads etc., form part of the various kinds of things which bear definite traces of being worked up by man. Definite proof exists of the use of stones as well by these Cave-dwellers. Thus in the Cathedral Cave of Billa Surgam 'two or three bones were found showing distinct traces of having been scraped with a hard and sharp implement the marks being such as would be made by a sharp stone flake'. The flesh of the animals killed by these mighty hunters might have been smoked before being taken as the presence of the cinder plainly brings out the existence of fire.

⁵ Dr. Oldham in the record of the Geological Survey of India, Vol. I. p. 65.

CHAPTER II.

The Neolithic Age.

In the next stage of human advance, men were for a long time still ignorant of metals except gold and were consequently obliged to continue using stone tools and weapons. The stone implements and weapons were ground, grooved and polished and thus converted into highly finished objects adapted to diverse purposes. Their main types are: (1) grooved axe with pecked groove; (2) celt with (a) blade thick near edge, (b) with long slender form, (c) with nearly round section, with nearly diamond section, with nearly rectangular section; (3) wedge-form; (4) chisel-form; (5) chipped shade; (6) pestle; and (7) hammer-stone. These can be studied to special advantage in the Bellary district where Fraser discovered in 1872 the north Bellary and Kapgallu Neolithic remains. The north-east slope of the hill here was apparently a Neolithic factory-site and the largest manufacturing industry of polished stones with tools in every stage of manufacture flourished there.

The Neolithic Indians were no longer mere hunters but cultivators as well, as the abundant varieties of mealing stones, corn-crushers and pounding stones prove. In fact, the people were rather vegetarian than carnivorous like the preceding men of the Old Stone Age, as the peaceful implements far out-number the weapons for war.

By this time many of them learnt to live in thatched primitive huts as the presence of straw in the cinder-mounds clearly prove. In their articles for domestic use they showed great fascination for colour. Their knives, saws, drills and lancets were made of beautiful chert, agate chalcedony, blood-stone and rock-crystal and went to make up the comforts of their economic household.

The Neolithic Indians used pottery which was "dull-coloured and rough-surfaced with but little decoration."⁶ The finds are distributed

⁶ Bruce-Foote in *Notes on the Ages and Distribution of the Foote Collection of Indian Pre-historic and Proto-historic Antiquities, Madras, 1216, p. 34.*

through the district of Anantapur, Cuddapah, Kurnool, Tinnevely, Baroda, Kathiwar, Beluchistan and other regions. Some of the Bellary potteries were "impressed with finger-tips five or four or two in number. A note worthy form is vessels pierced with a certain number of holes in two pieces of grey pottery from the same place four or ten in number. Closely associated with these are forms analogous to the fabric-marked pottery of which one has been reported in Travancore stape and to which class may be assigned a large number of those described as impressed with fillets of the simplest type which appear to have been so common in Neolithic India. An equally common form is the grooved pattern, two, three or sometimes even fourteen lines incised which is often varied by impressed or raised ring designs." ⁷

Gold is obtained directly from quartz veins and it is well known that Palæolithic Indians were very fond of milk-white quartz. "Many old workings have been met with along with outcrops of the veins in Chota Nagpur with large number of grooved stones which had been used for crushing and grinding the quartz." ⁸ The remains of ancient workings are also found in the Wynaad district of Malabar, Nilgiri and in Mysore. ⁹ A Neolithic settlement of gold miners existed at Maski in the modern state of Hyderabad where the gold-miners' shafts were the deepest in the world. Its yellow colour was the cause of its early use and a like case is of several finely coloured gem-stones used in the making of beads which were used for ornamental as well as ritual purposes. ¹⁰

These primitive peoples were not altogether devoid of the artistic sense as the rock paintings near Singanpur in the Raigarh district of the Central Provinces seem to prove. "The pigment was probably applied by means of bamboo or reed brushes, the implement most likely

⁷ Professor Panchanan Mitra in *Pre-historic India*, Second edition, 1927, pp. 399—400.

⁸ La Touche, *Bibliography of Indian Geology*, Article on "Gold."

⁹ Gowland on Metals in Antiquity in the *Journal of the Royal Anthropological Institute*, Vol. XVIII. p. 260.

¹⁰ Bruce-Foote has pointed out that the Neolithic settlement in the Bellary district gradually acquired the knowledge of iron-making industry as some small pottery (tuyere) suitable for protection against direct flame action of the nozzle of a small bellows was found in the Neolithic stratum.

used being a stiff blunt point, rather than a brush and the treatment of some of the painted surfaces seems to prove this ... The drawings are mostly executed in flat washes of one colour, although there are certain traces of shading and modelling, but these are very indistinct and barely discernible. The soft effect of the outline of the paintings may be due to age, or to the porous nature of the rock having absorbed the pigment. The subjects are (a) hunting scenes, (b) groups of figures, (c) picture-writing or hieroglyphics and (d) drawings of animals, reptiles, etc..... The chief artistic feature of these Raigarh paintings lies in their spirited expression and spontaneity of treatment. A strong family likeness may be noticed between these cave paintings and the patterns on what is called the "cross-lined" pottery of pre-historic Egypt. In these the men are represented in the "triangular style", a method of drawing adopted by many primitive races of ancient and modern times."¹¹ Equally interesting are the no less than twenty groups of figures of birds and beasts executed on rocks in the Neolithic site of Kapgallu in the Bellary district found by H. Knox¹² and the cave-paintings in the Kymore ranges discovered by John Cockburn.¹³

No less striking are the series of sculptures occurring in the Edakal Cave, Wynaad. "The most interesting features of the sculpture are the frequent human figures with peculiar headdress. There are several rather indistinct figures of animals. The usual Indian symbols are of frequent occurrence, *e.g.*, the swastika and specimens of the familiar circular 'sun-symbols'. There is evidence also of magic squares."¹⁴ That they belonged to the Neolithic times may be judged from the find of a fragment of a well-shaped and polished celt from the place. To the same cultural horizon, at least so far as the style was concerned, belonged a group of rock-carvings discovered by Professor Panchanan Mitra and party in the

¹¹ Mr. Percy Brown's Notes on the prehistoric cave paintings at Raigarh in Prof. Panchanan Mitra's *Prehistoric India*, pp. 464—65, 467—68.

¹² Bruce-Foote in *Notes on the Ages*, etc. pp. 87—89.

¹³ *Journal of the Royal Asiatic Society*, 1889, New Series, Vol. XXXI, pp. 89—97

¹⁴ F. Fawcett in *Indian Antiquary*, Vol. XXX (1901) p. 413.

Maubhandar village of Singhbhum.¹⁵ That they belonged to Neolithic times may be judged from the find of a Neolithic axe from the place.

The Neolithic Indians learnt the use of graves which have been discovered by John Cockburn in the Mirzapur district, U. P.¹⁶ The tombs were surrounded by stone circles. Many pre-historic cemeteries exist in the Tinnevely district along the coast of the Tāmraparṇī river, the most ancient seat of the pearl and conch-shell industry. This connection between the early settlements on the Tāmraparṇī river and the pearl-fishery is not an isolated fact. Professor Elliot Smith¹⁷ rightly observes : “Ancient miners in search of metals or precious stones or in other cases pearlfishers had in every case established camps to exploit these varied sources of wealth and the megalithic monuments represent their tombs and temples.”

¹⁵ Professor Panchanan Mitra's Prehistoric India pp. 201—202.

¹⁶ Imperial Gazetteer, Vol. II. pp. 95—96.

¹⁷ Manchester Memoirs, Vol. LX. Part I. 1915, p. 29 of reprint.

CHAPTER III.

The Copper Age.

As the Neolithic Age gradually passed away in Northern India, it appears to have given place not to an Age of Bronze as it did in most parts of Europe but to one of Copper. In Southern India on the other hand, stone tools were superseded directly by iron without any intermediate step.¹⁸ Six bronze weapons of which three are harpoons, one a celt, one a spearhead and the last a sword have been noticed by Vincent Smith and no less than 123 bronze objects are recorded by Mr. Rea and we find not quite a small number in the Patna Museum. But all these were used as adornments or mere exotics. Among the Copper Age antiquities are bare and shouldered celts, harpoons, spear heads both plain and barbed, axe-heads, swords and an object suggestive of the human shape. The last mentioned as well as some of the swords which are remarkable for their excessive weight and the form of their handles may have been used for cult purposes. One hoard of these implements which came from Gungeria in the Central Provinces contained as many as 424 specimens of almost pure metal, weighing in all 829 pounds besides 102 ornamental laminae of silver. Such a collection comprising as it did, a variety of implements intended for domestic and other purposes affords evidence enough, as Dr. Smith has remarked, that their manufacture was conducted in India on an extensive scale; while the distinctive types that have been evolved and are represented both in this and other finds connote a development that must already have extended over a long period, though at the same time, the barbed spear-heads and harpoons and flat celts manifestly copied from neolithic prototypes bespeak a relatively high antiquity. The presence of silver ornaments in the Gungeria hoard has suggested doubts as to its remote date but there seems little reason for assuming that a race familiar with the difficult metallurgical processes by which copper is extracted from its ores were incapable of smelting silver from the rich argentiferous galenas which occur in various localities.

¹⁸ The Copper Age and the Pre-historic Bronze Implements of India by V. A. Smith in the *Indian Antiquary*, Vol. XXXIV, p. 229f and Vol. XXXVI, p. 53f.

Information of equally fascinating interest to the student of economic history is furnished by the sepulchral remains found in the Tinnevely, Kurnool, Coimbatore and Anantapur districts as well as in the Nizam's dominions. The smaller earthen vessels found in the burial sites at Adichanallur in Tinnevely¹⁹ closely resemble objects of pre-historic pottery found in Egypt and many exhibit a characteristic red and black polished surface, which was the result of friction and not of a true fused glaze. It is interesting to find rice husks in many of these earthen utensils. The iron articles include swords, daggers, spear-heads, agricultural implements resembling the modern "mammutti", tridents, peculiar "hangers" probably used for the suspension of iron saucer lamps of which several have been found. Though much fewer in number the bronze articles are executed with higher skill than those in iron and comprise objects like scent-bottles, rings, bangles and bracelets. There are sieves in bronze in the form of perforated cups fitted into small basins. The only objects discovered in any of the precious metals are oval frontlets of gold leaf. In Kurnool burial sites²⁰ no stone or metal implements or weapons or beads or jewellery have been found. The only objects obtained are domestic vessels made of a buff-coloured pottery, neatly turned on a wheel and well-baked. There are also large food and water jars of a deep red colour, glazed and ornamented with incised lines and a few simple raised mouldings. The sepulchral remains in Coimbatore²¹ contain pottery, domestic vessels, a few beads, corroded iron implements such as knives and spear blades. Most of the tombs of the Anantapur district are provided with circular ring of stones all round and are of the usual rectangular shape, with four stone-sides and a heavy capstone above. A circular hole laboriously cut through one of the solid side-slabs was possibly intended as a passage for the soul on its return to earth. Though the Egyptian process of embalming appears to have been unknown, similar care was taken to preserve the remains of the

¹⁹ Mr. A. Rea's Report of the Archaeological Survey of India, Southern Circle, 1902—1903 pp. 111—140.

²⁰ Longhurst's Report of the Archaeological Survey of India, Madras, 1914—1915 pp. 39—41.

²¹ N. J. Walhouse's Notes on the Megalithic monuments of Coimbatore district, Madras in J. R. A. S., New series, Vol. VII.

dead by placing them in earthen jars or urns, carefully sealed with clay ; while the almost cyclopean nature of the construction of some of the tombs rival those of Egypt in point of durability. It is equally worthy of note that tombs of this kind are only found in Southern and Western India which seems to point to western influence.²² The sepulchral remains discovered by Dr. Hunt in the Nizam's dominions²³ include potteries, some of which bear marks closely resembling early forms of the "ka" mark of Egypt, dishes, bells and ornaments made of copper as well as weapons, arrow-heads, knives, spears, axes, sickles and tridents made of iron.

Having regard to this development of industry it seems desirable to say a few words with regard to the condition of currency that may have prevailed in this country before the advent of the Aryans. "I can quite imagine some doubt crossing the minds of most of my readers" says Professor D. R. Bhāṇḍarkar "as to how I could even surmise the state of currency in pre-vedic India. But what Professor Ridgeway has done in regard to the pre-historic or proto-historic currency of Greece can also be attempted on a modest scale in regard to India, provided we follow his method which is typically the anthropological method." It is possible to study the various kinds of currency in use among the savage tribes of various stages of civilisation and compare them to the similar ones that were prevalent in India. Now the earliest stage of civilisation is taken to be the Hunting stage. No form of currency belonging to this stage, such as skins of hunting animals is known to us from any composition of the Vedic period or from any other source. As the Hunting age passes to the Pastoral and animals are domesticated, the animal itself, not its skin, becomes the unit of value. The most common of such animals in India is the cow which is found mentioned in the Rigveda. Thus there is a hymn in this Veda²⁴ where Indra *i.e.*, his image is offered as a fetish

²² Longhurst's, Report of the Archaeological Survey of India, Madras, 1912—1913, pp. 57f.

²³ E. H. Hunt's Hyderabad Cairn burials and their significance in the Journal of the Royal Anthropological Institute, Vol. LIV. 1925, pp. 140—156 ; F. J. Richards' Note on some Iron Age graves in North Arcot district, Ibid, pp. 157—165.

²⁴ IV. 24. 10.

for ten cows and another²⁵ where Indra is considered to be so invaluable that not a hundred, a thousand or a myriad of cows is thought to be a proper price. As the Pastoral develops into the Agricultural stage, a number of agricultural products come to be used as currency. It is in this agricultural stage that commerce is found to develop itself and a greater number of objects are found capable of being used as measures of value, such as garments, coverlets and goat-skins which were so employed in the time of the Athava-veda.²⁶ Thus we see that traces of the various circulating media of these various stages of civilisation are clearly found in the Samhitā portion of the Vedas and they must have survived down to the Vedic epoch from previous stages of civilisation.

We may also note here that there are not one or two but many pre-historic symbols to be found on the punch-marked coins.²⁷ Mr. Theobald has observed not less than fourteen symbols engraved on the sculptured stones of Scotland. There was a time when Fergusson and archæologists of his kind relegated the rude stone implements of Great Britain to the post-Roman period but to-day no archæologist of any repute disputes its pre-historic character. When therefore we find so many pre-historic symbols occurring on the punch-marked coins, it is difficult to avoid the conclusion that Kārṣṭapaṇa coins must have been handed down to us from pre-historic times. If any further evidence is required, it is furnished by the fact, first brought to our notice by Elliot that these punch-marked coins "have been discovered along the ashes of the men who constructed the primitive tombs known as Pāṇdukulis of the south and unearthed from the ruins of buried cities in excavating the head-waters of the Ganges Canal."²⁸ "A large horde of these coins" says he elsewhere "was discovered in September 1807 at the opening of one of the ancient tombs known by the name of Pāṇdukulis near the village of Chavadipaleiyam in Coimbatore, thus identifying the employment of this kind of money with the aboriginal race whose places of sepulchre are scattered over every part of Southern India."²⁹

²⁵ VIII. 1. 5.

²⁶ IV. 7. 6.

²⁷ cf. J. B. O. R. S. 1920, p. 400.

²⁸ INO. cs i. 45.

²⁹ Madras Journal of Literature and Science, 1858, p. 227.

The Chalcolithic Civilisation of the Indus Valley.

The surprising discoveries by Rai Bahadur Dayaram Sahni at Harappa in the Montgomery district of the Punjab and by Babu Rakhal Das Bannerji at Mohenjo Daro in the Larkana district of Sindh have proved the existence of a new kind of coins and have established beyond doubt the fact that five thousand years ago the people of the Punjab and Sind were living in well-built cities and were in possession of a relatively mature civilisation with a high standard of art and craftsmanship and a developed system of writing—a civilisation as highly developed and seemingly as widespread as the Sumerian culture of Mesopotamia with conclusive evidence of a close contact between the two.³⁰ The recent discoveries by Mr. N. G. Mazumdar³¹ of a remarkable series of pre-historic sites in western Sind between the Indus and the Khirthar range reveal a wider diffusion of this Indus culture and link up the zone of Chalcolithic civilisation of Sind with the area surveyed by Sir Aurel Stein in Southern Beluchistan; and there is evidence to show that it extended over Cutch and Kathiawar towards the Deccan.

Like the Egyptians of the Nile valley or the Sumerians and Babylonians of the Tigris-Euphrates valley the Indus people were provided by Nature with ample opportunities for agriculture on a flat plain subjected to floods. There are strong reasons for inferring that Sind was then watered by two large rivers instead of one and was, as a consequence, at once more fertile and less subject to floods. The two rivers are the Indus and the old great Mihran, otherwise known as the Hakra or Wahindah which once received the waters of the Sutlej and flowed well to the east of the Indus, following a course which roughly coincided with that of the Eastern Nara Canal. Moreover, the country was blessed with a greater rainfall and consequently had better prospects of agriculture. For this, evidence is furnished by the large number of street-drains and the rain-water pipes discovered at Mohenjo-Daro, the universal use of burnt instead

³⁰ Sir John Marshall—*Prehistoric Civilisation of the Indus Valley* in the *Illustrated London News*, January 7 and 14, 1928; February 27 and March 7, 1928; also in *Times of India Illustrated Weekly*, 7th March 1926.

³¹ *Explorations in Sind*, published by the Govt. of India, Delhi, 1934.

of sun-dried bricks in its buildings and the representation on the seals of the tiger, the rhinoceros and the elephant who favour a moist climate.⁸² Some significance should also be attached in this connection to the preponderance of vegetation motifs on the painted pottery of Mohenjo-Daro and other contemporary sites in the Indus valley. Though little has yet been discovered of the processes of cultivation and irrigation then in vogue it is worthy of note that the specimens of wheat found in Mohenjo-Daro resemble the common variety grown in the Punjab to-day.

Hunting and fishing continued to be the occupation of a large section of the people. In their houses bones of the Gharial, boar, sheep and the bovine species as well as the shells of tortoises and turtles have been found, sometimes in a half-burnt condition, so that the conclusion is irresistible that besides bread and milk, fish from the rivers and the flesh of these animals formed their food.

The principal domestic animals, besides the cow and the sheep, were the humped long-horned bull, the buffalo, the short-horned bull, pigs, horse, elephant and dogs. The breed of Brahmini bulls as depicted on the seals seems to be every whit as good five thousand years ago as it is to-day.

The Babylonian and Greek names for cotton—Sindh and Sindon respectively—have always pointed to Sind as the home of cotton-growing and it is interesting to note that numerous spindle whorls in the debris of houses have been found, thus proving the practice of spinning and weaving. That the weaving material was cotton from the cotton plants of the genus *Gossypium* and not cotton from the silk-cotton tree has been proved by the discovery at Mohenjo-Daro of cotton of the former kind, with the typical convoluted structure which is the peculiar characteristic of that fibre. Even scraps of a fine woven cotton material have been found.

The dress among the upper classes consisted of two garments: a skirt fastened round the waist like the primitive Sumerian skirt and a plain and patterned shawl which was drawn over the left and under the right shoulder, so as to leave the right arm free. Earrings, bangles, girdles and

⁸² The lion which prefers arid and sparsely covered country does not occur.

anklets were worn by women while necklaces and finger-rings were worn by men and women of all classes, rich or poor. The ornaments of the latter were mainly of shell and terracotta while those of the rich were of silver and gold or copper plated with gold, of blue faience, ivory, cornelian, jadeite and multi-coloured stones of various kinds. Beads and bangles made of bronze, bangles and other ornaments made of shell (sank) were also in common use. The seals were sometimes worn by a cord round the neck or waist or as amulets. The girdles of cornelian and gilded copper as some of the earrings and "netting" needles of pure gold have so fine a polish on their surface that it would do credit to a modern jeweller.

The Indus people were familiar not only with gold and silver as the various ornaments made from them show but also with copper, tin and lead. Copper which was obtained from Beluchistan on the west and from Afganistan on the north was mostly used for weapons and implements like daggers, hatchets and celts as well as for domestic utensils like vessels, chisels, sickles, knives etc. Personal ornaments, amulets and statuettes were also made of copper. Most of these objects were wrought by hammering though examples of cast copper are by no means uncommon. A unique object made of copper, found in a low stratum at Harappa is a model of a two-wheeled cart with a gabled roof and driver seated in front. This is the oldest known example of a wheeled vehicle older than the steel fragment with the picture of a chariot recently found by Woolney at Ur in Sumer.

The finds of bronze objects as compared with copper are small, doubtless owing to the difficulty and cost of obtaining tin. Tin was probably imported from Khorasan or through Sumer from further west, to be alloyed with copper to form bronze as the remains of bronze vessels, statuettes, bangles, beads and buttons show. Specially striking is the use of bronze in making tools like razors, chisels and celts which require a hard cutting edge.

Pottery was well-known and common domestic vessels were of earthenware. They have a great variety of shapes, though it is curious how few of the vases are provided with handles. Most of the pottery is of plain

undecorated red colour, but painted pottery is not uncommon. As a rule the designs are painted in black, on a darkish red slip. This dark and red Indus ware has been found in abundance by Sir Anrid Stein in N. Beluchisthan and along the Waziristhan borderland and more sparsely in Sistan. A few specimens of polychrome decoration in red, white and black have also been met with at Mohenzo-Daro. Blue encaustic faience of a kind similar to that found in Mesopotamia and Egypt also played an important part in the making of miniature vases, ornaments, amulets and the like while a finer and harder variety of this paste was used for finishing off the surface of seals.

The remains laid bare at Mohenzo-Daro belong to the three latest cities on the site, each erected successively on the ruins of their predecessors. The date of these remains can be determined within tolerably narrow limits by the discovery at Susa and several sites in Mesopotamia of typical Indian seals inscribed with Indian pictographic legends, in positions which leave no doubt that they belonged to the period before Sarpon I, that is, before about 2,700 B. C. On another seal of the same pattern recently unearthed at Ur in Sumer, the legend is in cuniform characters of about 2,700 B. C. It may be inferred, therefore, that this class of Indian seals is to be assigned to the first half of the third millenium B. C. or earlier; and in as much as seals of this class are associated with the three uppermost cities at Mahenzo-Daro we may confidently fix the date of these cities between 3,500 and 2,500 B. C.

A bird's eye of the uppermost city at Mohenzo-Daro would reveal that the streets and lanes were laid out regularly according to a plan. The roads were broad and alignment of houses very good. The roads were broad enough to admit of all kinds of traffic and their surface was sometimes hardened with solid materials. The buildings abutting on the streets and lanes were so built, the walls being broad at the base and narrowing towards the top, that as the level of the streets and lanes rose, their width increased. There were central drainage channels in every street fed by subsidiary drains in the lanes.

The dwelling-houses of Mohenzo-Daro, though bare of all ornament are made of well-burnt brick, usually laid in mud but occasionally in

gypsum (plaster of Paris) mortar with foundations and infillings of sun-dried brick. The laying of the bricks suggested the use of instruments of level. One interesting feature of the houses was that all of them opened in by-lanes. Further, there was no direct access from the doorway into the house, but one had to pass through a room into a courtyard and then to the rooms of the house. Storied houses were very common as the existence of stairways revealed. Roofs were supported by beams and cross beams and roofing was done by spreading reed matting daubed with mud. Another interesting point about the houses was that no two of them had a common wall though they were all built close together in blocks. A narrow space was allowed between the walks of neighbouring houses, the same being walled up at either end. Some of the houses were very spacious and consisted of several rooms besides large courtyards and halls, suited to the accommodation of large families—an indication probably of the existence of joint family system among the Indus people. The houses are equally remarkable for the relatively high degree of comfort evidenced by the presence of brick-flooring bath rooms and wells. Near the wells were paved washing places and the used water was drained away by well-constructed drains which sometimes ran forty or fifty feet before connecting with the street-drain. There were cess pits and small jars used for collecting drainage water at houses.

Outstanding among the buildings at Mohenzo-Daro is a temple with a beautiful public bath. On the four sides of the bathing tank is a boldly fenestered corridor, with a platform in front and small chambers behind. The outer wall which is more than six feet in thickness with a pronounced batter on the outside was pierced by two large entrances on the south and smaller ones on the east and north. At either end of the bath is a descending flight of steps. Like the bath-room floors of the private houses, the floor is laid in finely joined brick-on-edge and remarkable care and ingenuity have been exercised in the construction of the surrounding walls. These walls which are nearly ten feet in thickness are made up of three sections; the inner and outer of burnt brick, the infilling between them of sun-dried brick; but in order to render them completely water-tight, the brick-work has been laid in gypsum mortar and the back

of the inner wall coated with an inch thick layer of bitumen. Bitumen was also used for bedding the wooden planks with which the steps were lined. A number of rooms on the story above, the wells close by to feed the bath with a regular supply of water, the covered drain over six feet in height, furnished with a corbelled vaulted roof by which water was conducted outside the city, and the care taken to secure privacy for each individual resorting to the bath all made the bath one of the finest discoveries in the city.

Though town-planning was not much in evidence in Harappa it was more extensive than Mohenjo-Daro. Its buildings were similar in character to those of Mohenjo-Daro but there is one tolerably well preserved building the like of which has not been found at Mohenjo-Daro. It comprises a number of narrow halls and corridors disposed in two parallel series with a broad aisle down the middle. The plan and the shape of the chambers recall to mind the store-rooms of the Cretan palaces. Small brick-structures somewhat like Hindu samādhis containing cinerary remains as well as a platform partially covered with ashes and half-charred bones which is thought to be a cremation platform have also been found at Harappa.

A new outpost of this Indus civilisation has been discovered in Kathiawar in the state of Limbi which is not far from the Gulf of Cambay; and it was at the ports of Cambay and Broach that the cornelian industry of India was concentrated. When therefore we find an extensive use of this material in the Indus sites, the conclusion may be safely drawn that it was imported from these parts. The Tinnevelley district along the coast of Tāmraparnī river was the most ancient seat of conch-shell industry and when we find this conch-shell as a typical and very extensively used material in the Indus sites, we may safely assume that it was imported as much from the sea-coast down the Indus as from the south-eastern coast of the Madras Presidency.

Trade was carried on not only with other parts of India but also with countries further west. The affinity between the purely geometric patterns of Amri pottery of W. Sind, of the Kulli and Mehi fabrics of S. Beluchistan and the painted ceramic wares of Sahr-i-Sokhta and other sites in

Sistan, of Tepeh Musyan and Susa in W. Persia, of Al-Ubaid and Samarra in Mesopotamia together with the occurrence of a figure closely resembling the Sumerian hero-god Eabani depicted on some Mohenjo-Daro seals is clear evidence of a close contact between these contiguous areas. But notwithstanding these and other points of similarity³³ the art of the Indus valley is distinct from that of any neighbouring country. Some of the figures on the engraved seals—notably the humped Indian bulls and short-horned cattle—are distinguished by a breadth of treatment and a feeling for line and form unequalled in the contemporary glyptic art of Elam or Mesopotamia or Egypt. The modelling too in faience of the miniature rams, monkeys, dogs and squirrels is of a very high order, far in advance of what we can expect in the fourth or third millenium B. C. Similarly, the houses recently unearthed by Mr. Woolney in Ur no doubt suggest an interesting parallel to those of Mohenjo-Daro but they are by no means equal in point of construction to those of the latter nor are they provided with drains of finely chiselled brick, covered with limestone slabs and connected with the main drain in the street. The conclusion is, therefore, irresistible—and it is being daily strengthened by the progress of exploration in the Indus valley—that whatever similarity we find between this Indus culture and the Sumerian civilisation of Mesopotamia, it is due not necessarily to actual identity of culture but to intimate commercial and other intercourse between these countries. Tin, as we have seen, was probably imported from Khorasan or through Sumer from further west, and bitumen from Beluchistan. Dr. Sayce in his Hibbert Lectures for 1887 on the Origin and Growth of Religion among the Babylonians has proved the existence of commerce between India and Babylon as early as 3000 B. C. The discovery by Rassam of Indian cedar in the palace of Nebuchadnezzar and of Indian teak in the temple of the moon-god at Ur refounded by Nebonidus, the use of the word “Sindh” for muslin in an old Babylonian list of clothes certainly point to commercial intercourse between India and Babylon. The bas-reliefs of the temple of Deir-el-Bahari at Thebes

³³ Sumerian connections with Ancient India—by E. Mackay in J. R. H. S. 1925, pp. 697—701.

which represents the conquest of the land of Punt under Hatasu contain a picture in which is described the booty which the Pharoah is carrying to Egypt. And in this booty, according to Leormant "appear a great many Indian animals and products not indigenous to the soil of yemen—elephant's teeth, gold, precious stones, sandal-wood and monkeys."³⁴

We have already seen that the smaller earthen vessels found in the burial sites at Adichanallur in Tinnevely closely resemble objects of pre-historic pottery found in Egypt. Some of the potteries discovered from the sepulchral remains in the Nizam's dominions bear marks which, according to Dr. Hunt, closely resemble early forms of the "Ka" mark of Egypt. We have also seen how from the nature of construction and the contents found in the tombs of Anantapur district the religious belief of the primitive peoples who constructed them seems to have been much the same as that held by the ancient Egyptians regarding man's life after death. On one of the faience sealings discovered in Mohenzo-Daro is a row of four standards borne aloft by men, each of which supports a totem figure remarkably like the well-known totem standards of the Egyptian names. The resemblance is so striking that it might almost be supported that this particular sealing was an import from pre-dynastic Egypt, were it not that it is inscribed on the reverse with an Indian pictographic legend. Long ago there was a school of orientalists who believed in the colonisation of Ethiopia and Egypt from N. W. India and the Himalayan provinces. Indeed if the people to whom the Indus civilisation was attributed had occupied cities for at least 500 to 1000 years, it is quite possible that the natural growth of population must have made them seek fresh fields and pastures for their expansion. In Philostratus an Egyptian is made to remark that he had heard from his forefathers that the Indians were the wisest of men and that the Ethiopians, a Colony of the Indians, preserved the wisdom and usage of their forefathers and acknowledged their ancient origin. We find the same assertion made at a later period in the third century B. C. by Julius Africanus, from whom it has been preserved by Eusebius and

³⁴ History of Ancient Del Orient Eng. ed. Vol. II. p. 299 Quoted in Indian Antiquary, Vol. XIII. p. 228.

Syncellus.³⁵ Philostratus introduces the Brahmin Iarchus by stating to his auditor that the Ethiopians were originally an Indian race compelled to leave India for the impurity contracted by slaying a certain monarch to whom they owed allegiance.³⁶ Cuvier, quoting Syncellus even assigns the reign of Amenophis as the epoch of the colonisation of Ethiopia from India.³⁷ Eusibius states that Ethiopians emigrating from the river Indus settled in the vicinity of Egypt.³⁸ Again, we find great similarity in the names of rivers, towns and provinces of both India and Egypt. "For about ten miles below Attock" says a critic, "the Indus has a clean deep and rapid current; but for about a hundred miles further down to Kalabagh it becomes an enormous torrent. The water here has a dark lead colour and hence the name Nilab or Blue river given as well to the Indus as to a town on its bank about twelve miles below Attock." According to another writer "Aboasin (a classical name for the Indus) gave its name to Abyssinia in Africa"³⁹ Indian "Suryarikā (Sun-burnt land) is perhaps the Sahara desert of Africa. The names of towns at the estuaries of the Gambia and Senegal rivers, the Tamba Cunda and another Cundas are according to Col. Todd⁴⁰ Hindu names. A writer in the Asiatic Journal⁴¹ gives a curious list of the names of places in the interior of Africa, mentioned in Park's Second Journey, which are shown to be all Sanskrit, and most of them actually current in India at the present day. We also find striking similarity in the names of rulers and gods of both India and Egypt. King Rama of India is king Ramses of Egypt. The first Egyptian Solar king Manes sounds like Hindu Manu, the first solar king of India. The bull-bannered Egyptian Isis is Indian Isa. Further the religious systems of India and Egypt "both proceed from monotheistic principles and degenerate into a polytheistic heathenism though rather of a symbolic than of a positive character. The principle

³⁵ India in Greece by Pococke, p. 205.

³⁶ India in Greece by Pococke, p. 200.

³⁷ p. 18 of his "Discourse."

³⁸ Lemp. Barker's edition, "Meroe."

³⁹ Heeren's Historical Researches, Vol. II. p. 310.

⁴⁰ Todd's Rajasthan, Vol. II. p. 309 footnote.

⁴¹ Vol. IV. p. 325.

of Trinity with that of the Unity, the pre-existence of the soul, its transmigration, the division of castes into priests, warriors, traders and agriculturists are the cardinal points of both systems. Even the symbols are the same on the shores of the Ganges and the Nile. Thus we find the Lingam of the Siva temples of India in the Phallus of the Ammon temple of Egypt—a symbol also met with on the headdress of the Egyptian gods. We find the lotus flower as the symbol of the Sun both in India and in Egypt and we find symbols of the immortality of the soul in both countries. The power of rendering barren women fruitful ascribed to the temples of Siva in India, was also ascribed to the temples of Ammon in Egypt.”⁴² Nor is this all. Mr. Pococke has found points of similarity not only in the objects of sculpture but also in the architectural skill and in the grand and gigantic character of the architecture of India and Egypt. Professor Heeren therefore concludes “whatever weight may be attached to Indian tradition and the express testimony of Eusebius confirming the report of the migrations from the banks of the Indus into Egypt, there is certainly nothing improbable in the event itself, as a desire of gain would have formed a sufficient inducement.” But to sober minds it is reasonable only to assume that whatever similarity there might exist between the place-names, the names of gods and kings and the social and religious institutions of ancient India and Egypt, it was the result of early commercial intercourse between the two countries.

In the Book of Genesis⁴³ we read that Joseph was sold by his brethren to the “Ishmaelites come from Gilcad, with their camels, bearing spicery, balm and myrrh going to carry it down to Egypt.” Here, Dr. Vincent observes, we find “a caravan of camels loaded with the spices of India.” Some suppose that myrrh used to be imported into Egypt by the Abyssinians, in whose country it largely grows. But the proof of its importation from India may be found in the name which it took in Egypt. Dr. Royle⁴⁴ observes that myrrh is called “bal” by the Egyptians, while its sanskrit name is “bota”, bearing a resemblance which leaves

⁴² Count Bjornstjerne's Theogony of the Hindus pp. 40—41.

⁴³ Chapter XXVII. v. 25.

⁴⁴ Ancient Hindu Medicine, “Myrrh” p. 119.

no doubt as to its Indian origin. According to Wilkinson⁴⁵ the presence of indigo, tamarind-wood and other Indian products found in the tombs of Egypt shows Indian trade relations with the land of the Pharaohs. The evidences of Comparative Philology corroborates this view. Ivory we know was largely used in India, Babylon, Egypt, Greece and Rome. Elephants are indigenous in India and Africa and the trade in ivory must be either of Indian origin or African. But the elephants were scarcely known to the ancient Egyptians⁴⁶ and Professor Lassen decides that they were neither used nor tamed in ancient Egypt. In ancient India, however, the elephant was an emblem of royalty and a sign of rank and power and no description of a king's procession or of a battle is to be met with where elephants are not mentioned. Even the god Indra has his "Airāwat." Then the Sanskrit name for a domestic elephant is *ibha* and in ancient Egypt ivory was known by the name of *ebu*. Professor Lassen thinks "that the Sanskrit name *ibha* might easily have reached Egypt through Tyre and become Egyptian *ebu*."⁴⁷ Similarly, Sanskrit *kapi* became Egyptian *kafu* and the Hebrew *koph*. This Indo-Egyptian trade is further supported by another erudite scholar the Rev. T. Foulkes⁴⁸ who comes to the same conclusion and says "With a very high degree of probability some of the most esteemed of the spices which were carried by the Mediantish merchants of Genesis XXXVII. 25—28 and by the sons of the Pharaoh Jacob (Genesis XLIII. 11) had been cultivated in the spice-gardens of the Deccan."

⁴⁵ Ancient Egyptians II. p, 237.

⁴⁶ Mrs. Manning—Ancient and Mediæval India, Vol. II. p. 251.

⁴⁷ C. Lassen—Indische Alterthumskunde Vol. I. p. 354.

⁴⁸ Indian Antiquary, Vol. VIII.

CHAPTER IV.

The Rigvedic Age.

The Rigvedic period was an age of migration and settlement. By this time the Aryan invaders had spread over the whole of the region, extending from the Kabul valley upto the Ganges and the Jumnā. In the list of rivers in the Nadi-stuti hymn⁴⁹, and elsewhere we find the names of the Gangā⁵⁰, the Yamunī⁵¹, the Sarayū⁵², and the Saraswati⁵³ and this goes to show the eastern limit of Aryan advance in Rigvedic India. Of the western tributaries of the Indus we find the names of Kubhā⁵⁴ (modern Kabul river) the Suvāstu⁵⁵ (modern Swat river) the Krumu⁵⁶ (modern Kurrum river) and the Gomatī⁵⁷ (modern Gomāl) rivers. Though most familiar with the valleys of the Indus and its tributaries the Aryans gradually spread over the greater part of the Ganges valley as well. Thus the Rigveda mentions Kikāṭa⁵⁸ which has been identified by some scholars with the country of Magadh.

Growth of agricultural life and landownership—The evidence of the science of Comparative Philology in relation to the Indo-European group of languages discloses the fact that the original Aryan stock, though pre-eminently a pastoral people were not unacquainted with agriculture.⁵⁹ It appears from the same evidence that during the Indo-Iranian period the Aryans were acquainted with agriculture⁶⁰ and we have even direct

⁴⁹ Rigveda X. 75 ;

⁵² Rigveda IV. 30. 18 ;
V. 53. 9 ; X. 64. 9.

⁵⁰ Rigveda VI. 45. 31 ; X. 75. 5.

⁵¹ Rigveda V. 52. 17 ; VII. 18. 19 ; VII. 33. 3 ; X. 75. 5.

⁵³ Rigveda I. 3. 12 ; II. 41. 16 ; III. 4. 8 ; III. 23. 4 ; VI. 52. 6 ; VII. 2. 8 ;
VII. 36. 6 ; VII. 96 ; X. 64. 9 ; X. 75. 5.

⁵⁴ Rigveda V. 53. 9 ; X. 75. 6.

⁵⁷ Rigveda VIII. 24. 30 ; X. 75. 6.

⁵⁵ Rigveda VIII. 19. 37.

⁵⁸ Rigveda III. 53. 14.

⁵⁶ Rigveda V. 53. 9 ; X. 75. 6.

⁵⁹ Otto Schrader, *Reallexikon der Indogermanischen Altertumskunde*, s. v. *Ackerbau*, *Familie*, *Stamm*, *Viehzucht* ; Hermann Hirt, *Die Indogermanen*, I. 251ff.

⁶⁰ Keith and Macdonell—*Vedic Index*, I. p. 181 (kṛṣi)

reference to agriculture in the *Vendidad*.⁶¹ When one branch of the Aryans ultimately migrated into the land of the five rivers, they found the country already in occupation of alien peoples, some of whom, as we have seen, judged by the wonderful remains of their civilisation in the Indus valley, attained a high level of material greatness; and even the confused and imperfect picture of the aborigines in the *Rigveda* furnishes some hints of their organisation in *pūras* under the rule of Chiefs.⁶² By the time even of the earliest hymns of the *Rigveda* the Indo-Aryans had settled down to a peaceful agricultural life and evolved the idea of landownership. The land was divided into *Vāstu*, Arableland, Pasture and Forests. The *Vāstu* was in individual ownership as was also the case with the *Vāstu* of the German Mark. But while the arable land in ancient India was in private ownership throughout, that in the Mark was at first in communal ownership but ultimately in private ownership.

In one hymn of the *Rigveda*⁶³ we read of an impoverished gambler who is made to take shelter in another's house and the sight of another's prosperity torments him :

“The gambler's wife is left forlorn and wretched :
 the mother mourns the son who wanders homeless
 In constant fear, in debt and seeking riches,
 he goes by night unto the home of others.
 Sad is the gambler when he sees a matron,
 another' wife, and his well-ordered dwelling.”

This proves conclusively that houses were owned in severalty and that the owners had the right of transfer. In fact, we constantly read of prayers for the bestowal of houses on individuals :—

“Bestow a dwelling-house on the rich landlords
 and me and keep thy dart (*O Indra*) afar from these.”⁶⁴

⁶¹ III. 23 and 24 ; also XIV. 10.

⁶² Keith and Macdonell—*Vedic Index*, s. v. *Dāsa* ; for references. Compare Rapson—*Cambridge History of India*, Vol. I. p. 86.

⁶³ *Rigveda* X. 34. 10—11.

⁶⁴ *Rigveda* VI, 46. 9.

“ Give us, O Mitra-Varuṇa a dwelling safe from
 attack, which ye shall guard, Boon-givers. ”⁶⁵
 “ Give ample room and freedom for our dwelling,
 a home, ye Hemispheres, which none may rival. ”⁶⁶

As regards the arable land we have a hymn of the Rigveda⁶⁷ which seems to make an indirect reference to the fact that the Aryans after conquering the land of the Daśyus used to share them apparently on a footing of equality. This sharing of the land by all the conquering persons during the Rigvedic age seems to be referred to in the *Manu Saṃhitā*.⁶⁸ Even the priests who officiated at sacrifices for the victory of Aryan arms claimed a share in the war-booty.⁶⁹ In one hymn⁷⁰ Apātā, the daughter of Atri prays to Indra that something may grow on her father's (apparently bald) head and on his plough-land. Even measurement of fields with a rod is referred to :

“ The Ribhus with a rod measured, as it were a field. ”⁷¹ According to Professor Scharder without private ownership we cannot expect fields to be measured in this way. We also meet with epithets like *kṣhetrapati*, *kṣhetrasā*, *urbarāpati* and *urbarāsā*, meaning lords or owners of fields, pointing to the existence of private ownership.⁷²

No royal ownership of land—The unit of Indo-Aryan society was the patriarchal family. The authority of the head of the family was very great and an instance of this may be found in the story of Ritrāṣva who was robbed of his eyesight by his father Vrishāgir for having slaughtered a hundred sheep for the she-wolf who was one of the asses of the Aswins in disguise.⁷³ Above the family stood the Viś in the sense of clan and a number of Viś groups formed the whole jana or people.⁷⁴ As regards the

⁶⁵ Rigveda VI. 50. 3.

⁶⁶ Rigveda VI. 67. 2. Compare Rigveda I. 114. 5.

⁶⁷ I. 100. 18—19.

⁷⁰ Rigveda VIII. 91. 5—6.

⁶⁸ VII. 97.

⁷¹ Rigveda I. 110. 5.

⁶⁹ Rigveda I. 180. 9.

⁷² Macdonell and Keith — Vedic Index, Vol. I. pp. 99, 210.

⁷³ Rigveda I. 117. 16.

⁷⁴ Macdonell and Keith — Vedic Index, s. v. Viś and Jana.

political organisation of this period monarchy as might be expected from their situation as settlers in the midst of a conquered population, was a well-established institution and the Rigveda gives as glimpses of the king's functions in peace and war.⁷⁵ Originally, it seems, the authority of the king was largely limited by that of the heads of the family and the chiefs of the clans, though as guardian of his people he used to receive such voluntary contributions which are called by the generic name "bali" just to maintain his authority and dignity.⁷⁶ There is nothing in the Rigveda to prove that he was ever regarded as the owner of the state-territory.

Corporate village-life—The grāma or village consisted of a group of families united by ties of kindred but what place it held in the scheme of tribal divisions and in particular what relation it bore to the Viś with which it was immediately connected, it is impossible to state with any degree of certainty.⁷⁷ Most of the villages were founded by settlers under some leader and apart from the question of consanguinity the people of a village regarded themselves as a united body. In times of war they fought under their leaders for the safety of their hearths and homes; and this is proved by the word samgrāma which primarily meant an assembly of the village-folk but later on came to mean a war-gathering. In times of peace they gathered in the village council (savā) which as Zimmer suggests "served like the Greek Leshke as a meeting place for social intercourse and general conversation about cows⁷⁸ and so forth, possibly also for debates⁷⁹ and verbal contests.⁸⁰ The administrative machinery of the village also supports its corporate character. At the head of the village was the Grāmaṇī⁸¹ who according to Zimmer⁸² presided over the village

⁷⁵ Ibid., s. v. Rājan; Rapson—Cambridge History of India, Vol. I. pp. 94—95, 98.

⁷⁶ Rigveda X. 173; Macdonell and Keith — Vedic Index, s. v. bali.

⁷⁷ Macdonell and Keith — Vedic Index, s. v. Grāma; Rapson—Cambridge History of India, Vol. I. p. 91, where reasons are shown for rejecting the older view of Zimmer (Altindisches Leben, pp. 159—60), namely that the Grāma was a clan standing between the family and the tribe.

⁷⁸ Rigveda VI. 28. 6.

⁷⁹ Rigveda I. 91. 120.

⁸⁰ Zimmer — Altindisches Leben, p. 172.

⁸¹ Rigveda X. 62. 11; X. 107. 5.

⁸² Altindisches Leben, p. 172.

assembly though Macdonell⁸³ does not accept this view. Ludwig⁸⁴ infers judicial functions of the village assembly from the word *kilvishaspr̥it* in the *Rigveda*⁸⁵ which can only mean "that which removes the stain attaching to a person by means of accusation."

The villages which thus became the basis of social life were connected by roads which were not free from dangers from wild beasts and robbers as is evident from the frequent prayers for protection on a journey offered to Pushan who was the deity presiding over roads and paths.⁸⁶

Growth of towns—The existence of city-life in this period has been denied by Professors Keith, Kacgi and others. Pischel, Geldner and Wilson, however, think otherwise. According to the latter *pūras* (cities) as distinct from *grāmas* (villages) were well-known. "Indra broke through Ilībisa's strong *pūras*."⁸⁷ "Thou (O Indra) hero-hearted hast broken through Pipru's *pūras*."⁸⁸ "Thou, O Indra, hast destroyed the hundred *pūras* of Vangrīda."⁸⁹ "Thou (O Indra) slayest the Vṛitras, breaker-down of *pūras*."⁹⁰ "Thou breakest down, Indra, autumnal *pūras*."⁹¹ "Him (Agni), indestructible, dwelling at a distance in *pūras* unwrought lies and ill-spirit reaches not."⁹² "Maghavan with the thunderbolt demolished his (Sambara's) ninety-nine *pūras*."⁹³ "Agni, thou brokest down the *pūras*."⁹⁴ "Thou, (O Indra) hast wrecked seven autumnal *pūras*."⁹⁵ "Indra, thou humblest tribes that spake with insult by breaking down seven autumnal *pūras*."⁹⁶ "Thou hast smitten Sambara's *pūras*, O Indra."⁹⁷ "(O Indra) dostroy the firm *pūras* built by man."⁹⁸ "Indra overthrew the solid *pūras* built by Pipru."⁹⁹ "He (Agni) with the steed wins spoil even in the fenced *pūra*."¹⁰⁰ Indra is said to have

⁸³ Vedic Index, Vol. I. p. 427.

⁸⁴ Der *Rigveda*, III. 254.

⁸⁵ X. 71. 10.

⁸⁶ *Rigveda* I. 42. 1; VI. 49. 8; VI. 51. 13; VI. 53. 1.

⁸⁷ *Rigveda* I. 33. 12.

⁸⁸ *Ibid*, I. 51. 5.

⁸⁹ *Ibid*, I. 53. 8.

⁹⁰ *Ibid*, I. 102. 7.

⁹¹ *Ibid*, I. 131. 4.

⁹² *Ibid*, II. 35. 6.

⁹³ *Ibid*, V. 29. 6.

⁹⁴ *Ibid*, VI. 16. 39.

⁹⁵ *Ibid*, VI. 20. 10.

⁹⁶ *Ibid*, I. 174. 2.

⁹⁷ *Ibid*, I. 103. 8.

⁹⁸ *Ibid*, VI. 45. 9.

⁹⁹ *Ibid*, X. 138. 3.

¹⁰⁰ *Ibid*, VIII. 92. 5.

“quickly demolished the strongholds and seven-walled pūras of Srukta and other asuras.”¹⁰¹ He is again said to have demolished one hundred pūras of stone for the pious Divodāsa.¹⁰² Again he possessed all the pūras of the asuras as a husband his wife¹⁰³ Saraswatī is described “as firm as a pūra made of ayas.”¹⁰⁴ Pūras made of the metal ayas are also mentioned in several other places,¹⁰⁵ figuratively, no doubt, to express great strength. Professor Wilson remarks “cities are repeatedly mentioned, and although, as the object of Indra’s hostility, they may be considered as cities in the clouds, the residences of the Asuras, yet the notion of such exaggerations of any class of beings could alone have been suggested by actual observations, and the idea of cities in heaven could have been derived only from familiarity with similar assemblages upon earth; but it is probable that by Asuras we are to understand, at least occasionally, the ante-vaṛḍik people of India, and theirs were the cities destroyed. It is also to be observed, that the cities are destroyed on behalf of or in defence of mortal princes, who could scarcely have beleaguered celestial towns, even with Indra’s assistance. Indeed, in one instance, it is said that, having destroyed ninety-nine out of hundred cities of the Asura Sambara, Indra left the hundredth habitable for his protégé Divodāsa, a terrestrial monarch, to whom a metropolis in the firmament would have been of questionable advantage. That the cities of those days consisted, to a large extent, of mud and mat hovels is very possible: they do still; Benares, Agra, Delhi, even Calcutta present numerous constructions of the very humblest class; but that they consisted of those exclusively, is contradicted in several places. In one passage the cities of Sambara that have been overturned are said to have consisted of stone; in another the same cities are indicated by the appellative dhyah, the plastered, intimating the use of lime, mortar or stucco; in another we have specified a structure with a thousand columns, which whether a palace or a temple, must have been something very different from a cottage; and again, supplication is put up for a large

¹⁰¹ Wilson’s *Rigveda* IV. 59.

¹⁰² *Ibid*, IV. 75.

¹⁰⁴ *Ibid*, IV. 12.

¹⁰³ *Ibid*, IV. 30. 20.

¹⁰⁵ *Rigveda* I. 58. 8; II. 20. 8;
IV. 27. 1; VII. 3. 7; VII. 15. 14;
VII. 95. 1; VIII. 89. 8; X. 101. 8.

habitation which could not be intended for a hut : cities with buildings of some pretence must obviously have been no rarities to the authors of the hymns of the Rigveda."¹⁰⁶ According to Professor Keith, however, "the pūra which is often referred to and which in later days denotes a town was probably no more than a mere earthwork fortification. In certain passages, these pūras are called autumnal, and by far the most probable explanation of this epithet is, that it refers to the flooding of the plains by the rising of the rivers in the autumn when the cultivators and the herdsmen had to take refuge within the earthworks which at other times served as defences against human foes."¹⁰⁷ But the actual remains of well-planned cities like those of Mohenjo Daro and Harappa of the Calcholithic Age seem, however, to confirm the imperfect picture of the pre-Aryan inhabitants of the Indus valley in the Rigveda, living in pūras, some of which might, therefore, will have been cities and not mere earthwork fortifications.

Development of Agriculture—Agriculture was already a part of Vedic economy. The very name Arya by which the Aryan conquerors have distinguished themselves from the aborigines is said to have come from a root (kṛiṣh) which means to cultivate.¹⁰⁸ Similarly the words kṛiṣṭayah¹⁰⁹ and carṣanayah¹¹⁰ are applied to the people in general. In other places we find Pancha kṛiṣṭyah¹¹¹ and Carṣanayah¹¹² applied to the great tribes.

Fertile plots of land (urbarā) were selected and divided into separate fields (kṣhetras) which were measured with a rod.¹¹³ Forests were cleared up by fire as well for purposes of cultivation.¹¹⁴ The Aswins taught the Great Manu the art of sowing seeds¹¹⁵ and the Indo-Aryans the use of the plough.¹¹⁶ The plough was known as Sira¹¹⁷ and Lāngala.¹¹⁸ The

¹⁰⁶ Wilson's Rigveda III. p. XIV.

¹⁰⁷ Rapson—Cambridge History of India, Vol. I.

¹⁰⁸ R. C. Dutt — Civilisation in Ancient India, p. 35.

¹⁰⁹ Rigveda I. 52. 11 ; I. 100. 10 ; I. 160. 5 ; I. 189. 3 ; III. 49. 1 ; IV. 21. 2.

¹¹⁰ Ibid, I. 86. 5 ; III. 43. 2 ; IV. 7. 4 ; V. 23. 1.

¹¹¹ Ibid, II. 2. 10 ; III. 53. 16 ; IV. 38. 10 ; X. 10. 4.

¹¹² Ibid, V. 86. 2 ;

¹¹³ Ibid, I. 110. 5.

VII. 15. 2 ; IX. 101. 9.

¹¹⁴ Ibid, I. 58. 4—5 ; I. 140. 4—8 ; II. 4. 4, 7 ; IV. 4.

¹¹⁵ Rigveda I. 112. 16 ; Sāyana's Commentary.

¹¹⁶ Ibid, I. 117. 21.

¹¹⁷ Ibid, IV. 57. 8 ; X. 101. 3, 4.

¹¹⁸ Ibid, IV. 57. 4.

ploughshare was called *phāla*¹¹⁹ and the yoke was called *Yuga*.¹²⁰ The plough was driven by oxen¹²¹ which were yoked and harnessed with traces (*varatrā*)¹²² and urged with the goad¹²³ with horny point¹²⁴ by the ploughman (*kināśa*).¹²⁵

For the improvement of agriculture cowdung was probably used as manure. *Śakṛt* in the *Rigveda*¹²⁶ means according to Professors Macdonell and Keith dung and "it is clear that the value of manure was early appreciated."¹²⁷ For irrigating the fields water-courses seem to have been dug out. The epithet *khanitrimā* (produced by digging) of *āpaḥ* (water) in the *Rigveda*¹²⁸ "clearly refers to artificial water-channels used for irrigation, as practised in the times of the *Rigveda*."¹²⁹ Muir¹³⁰ took the word *kulyā* to mean artificial waterways which carried water to reservoirs. Wells for purposes of irrigation were also well-known. The word *avata* frequently occurs in the *Rigveda*¹³¹ and denotes an artificial hollow in the earth containing water. *Kūpa* having the same meaning also occurs in the *Rigveda*.¹³² Such wells are "described as unfailing (*akṣita*) and full of water."¹³³ The water was raised by a wheel of stone¹³⁴ to which was fastened a strap (*varatrā*) with a pail (*kośa*) attached to it. When raised, it was poured into buckets (*āhāva*)¹³⁵ of wood. Sometimes these wells appear to have been used for irrigation purposes, the water being led off into broad channels (*sūrmī suṣirā*).¹³⁶ In some cases they (the wells)

¹¹⁹ Ibid, IV. 57. 8 ; X. 117. 7.

¹²⁰ Ibid, I. 115. 2 ; I. 184. 3 ; II. 39. 4 ;
III. 53. 17.

¹²¹ Ibid, X. 106.

¹²² Ibid, IV. 57. 4.

¹²³ Ibid, IV. 57. 4 ; X. 112. 8.

¹²⁴ Ibid, VI. 53. 9.

¹²⁵ Ibid, IV. 57. 8.

¹²⁶ Ibid, I. 161. 10.

¹²⁷ Vedic Index, II. p. 348.
¹²⁸ Rigveda VII. 49. 2.
¹²⁹ Vedic Index, I. p. 214.
¹³⁰ Sanskrit Texts, Vol. V. pp. 465—66.
¹³¹ I. 55. 8 ; I. 85. 10, 11 ; I. 116. 9, 22 ; IV. 17. 16 ; VIII. 49. 6 ; VIII. 62. 6 ;
X. 25. 4.

¹³² I. 105. 17.

¹³³ Rigveda X. 101. 6.

¹³⁴ *Aśma-Cakra*, Rigveda X. 93. 13 ; X. 101. 7.

¹³⁵ Rigveda X. 25. 4.

¹³⁶ Ibid, VIII. 69. 12.

must have been deep, as Trita in the myth is said to have fallen into one, from which he could not escape unaided."¹³⁷

For successful agriculture timely rain was a necessity. Hence the innumerable prayers for rain preserved in the hymns of the Rigveda.¹³⁸ Sacrifices were also offered for helping Indra to fight Vṛtra or the Demon of Drought and bring down rain by rendering open his cloud-body with Indra's thunderbolt. Indra was assisted in his work by some other deities, notably Viṣṇu the Sun-god who heated the sea-water, converted it into vapour and lifted them into the sky above,¹³⁹ the Maruts or Winds (Monsoons) who carried the watery vapour inland from the surrounding seas, Trita the third month of the rainy season when rainfall was incessant, Parjanya the ancient god of rain and Bṛhaspati of "loud speech"¹⁴⁰ who helped the worshippers in properly chanting the mantras at the sacrifice, held for the propitiation of the gods. The Saraswati was called Vṛtraghni the killer of Vṛtra, like Indra.¹⁴¹ That obtaining rains was the main object of holding the annual and special sessions of sacrifice in those days is evident from the following verse: "I offer to you (gods) for the sake of water, an all-bestowing sacrifice whereby the Navagvas have completed the ten month's rite."¹⁴²

Before agricultural work was begun, certain verses were uttered to propitiate the Lord of the Field (Kṣhetrapati) and other deities, supposed to preside over agriculture, as will appear from the following verse of the Rigveda¹⁴³ :—

"We through the Master of the Field, even as through
a friend obtain

¹³⁷ Macdonell and Keith—Vedic Index, I. 40, 177 ; also Macdonell—Vedic Mythology, p. 67.

¹³⁸ V. 63. 2 ; V. 63. 6 ; V. 83. 6—7 ; VI. 70. 5 ; VII. 64. 2 ; VII. 65. 4 ; VII. 73. 3 ; VII. 102. 1 ; VIII. 7. 16 ; VIII. 25. 6 ; IX. 8. 8 ; IX. 39. 2 ; IX. 49. 1 ; IX. 65. 3, 24 ; IX. 96. 4 ; IX. 97. 17 ; IX. 106. 9 ; IX. 108. 10 ; X. 98. 5, 10.

¹³⁹ Rigveda VIII. 77. 10.

¹⁴⁰ Ibid, IV. 50. 5.

¹⁴¹ Ibid, VI. 61. 3, 7.

¹⁴² Ibid, V. 45. 1.

¹⁴³ IV. 57.

What nourisheth our kine and steeds. In such way
 may he be good to us.
 As the cow yieldeth milk, pour for us freely, Lord of
 the Field, the wave that beareth sweetness,
 Distilling meath, well-purified like butter, and let
 the Lords of holy Law be gracious.
 Sweet be the plants for us, the heavens, the waters,
 and full of sweets for us be air's mid-region.
 May the Field's Lord for us be full of sweetness, and
 may we follow after him uninjured.
 Happily work our steers and men, may the plough
 furrow happily,
 Happily be the traces bound ; happily may he ply
 the goad.
 Suna and Sira, welcome ye this land, and with the
 milk which ye have made in heaven.
 Bedew ye both this earth of ours.
 Auspicious Sitā, come thou near : we venerate
 and worship thee
 That thou mayest bless and prosper us and
 bring us fruits abundantly.
 May Indra press the furrow down, may Pūṣhan
 guide its course aright
 May she, as rich in milk, be drained for us
 through each succeeding year.
 Happily let the shares turn up the ploughland,
 happily go the ploughers with the oxen.
 With meath and milk Parjanya make us happy ;
 grant us prosperity, Suna and Sira."

In another hymn¹⁴⁴ sacrifice is figuratively spoken of as ploughing,
 sowing and reaping.¹⁴⁵ We also read of other agricultural operations like

¹⁴⁴ Rigveda X. 101. 3—12.

¹⁴⁵ Compare Satapatha Brāhmaṇa VII. 2. 2, 4.

cutting of corn by the sickle,¹⁴⁶ the laying of it in bundles,¹⁴⁷ on the threshing floor¹⁴⁸ and final shifting by winnowing.¹⁴⁹

Coming to the nature of the grain grown we find that Yava¹⁵⁰ and dhānāḥ¹⁵¹ or dhānya¹⁵² were cultivated.¹⁵³ According to Macdonell and Keith¹⁵⁴ Yava perhaps meant any kind of grain and not merely barley. But we should bear in mind that Indian commentators have always taken Yava to mean barley only. Moreover, we should note in this connection that barley is one of the earliest grains to be cultivated by man. Again European scholars interpret dhāna and dhānya as grain in general and not as rice, though in later literature it always means rice. The absence of the name of vrihi (the boro rice of Lower Bengal which later became the general name of rice) in the Rigveda lend colour to the view that rice was unknown in this age.¹⁵⁵

Food of the people—The food of this age consisted of barely flour and its various preparations, fruits, flesh of animals like goats, sheep, oxen, buffaloes, deer and sometimes horses as well as honey, clarified butter, curds and other preparations of milk. The drink consisted of milk, the Soma juice and wine.

Apūpa¹⁵⁶ was a kind of cake made of barley mixed with clarified butter. Pakti¹⁵⁷ was another kind of cake. Grain cooked with milk was called khira-audana.¹⁵⁸ Karamba¹⁵⁹ was a kind of porridge made of fried barley-flour, mixed with curd or clarified butter.

¹⁴⁶ Śrīṇī, Rigveda I. 58. 4 ; IV. 20. 5 ; X. 101. 3 ; dātra, Rigveda VIII. 67. 10.

¹⁴⁷ parṣa, Rigveda X. 48. 7.

¹⁴⁸ Khala, Rigveda X. 48. 7.

¹⁴⁹ Rigveda X. 27. 15 ; X. 68. 3 ; X. 71. 2.

¹⁵⁰ Rigveda I. 53. 2 ; IV. 24. 7 ; V. 85. 3 ; VII. 3. 4 ; VIII. 2. 3 ; VIII. 81. 4 ; X. 27. 8 ; X. 131. 2.

¹⁵¹ Rigveda I. 16. 2 ; III. 35. 3 ; III. 52. 7 ; VI. 29. 4.

¹⁵² Rigveda V. 53. 13 ; VI. 13. 4 ; X. 94. 13.

¹⁵³ Cucumber is also referred to, Rigveda VII. 59. 12. ¹⁵⁴ Vedic Index, II. p. 187.

¹⁵⁵ For the view that rice was cultivated in this age, read A. C. Das—Rigvedic Culture, pp. 266—69, 281—83.

¹⁵⁶ Rigveda III. 52. 7 ; X. 45. 9.

¹⁵⁷ Ibid, IV. 24. 5 ; IV. 25. 6 ; VI. 29. 4.

¹⁵⁸ Ibid, VIII. 69. 14 ; VIII. 77. 10.

¹⁵⁹ Ibid, I. 187. 16 ; III. 52. 7 ; VI. 56. 1 ; VI. 57. 2 ; VIII. 102. 2.

Meat was a principal item of food. The sage Bharadwāja prayed to Indra to grant him and his worshippers food with cow as the principal item.¹⁶⁰ Agni is called "cater of ox and cow."¹⁶¹ Bulls were sacrificed to Indra as well.¹⁶² There was even an appointed place for the slaughter of bulls and cows.¹⁶³ On rare occasions horse was sacrificed and its flesh was cooked and offered to the gods,¹⁶⁴ both roasted¹⁶⁵ and boiled¹⁶⁶; while the worshippers "craving meat, await the distribution."¹⁶⁷ We also hear of buffaloes dressed for and eaten by Indra.¹⁶⁸ The cow, however, was gradually "acquiring a special sanctity, as is shown by the name *aghnyā* (not to be slain) applied to it in several passages."¹⁶⁹ The word occurs sixteen times in the Rigveda as opposed to three instances of *aghnya* (masculine). It would thus appear that there was a school of thinkers among the Rishis who set their face against the custom of killing such useful animals as the cow and the bull. Relying on Sāyana's interpretation we also find a reference to the fowler's wife cutting a bird, evidently for food.¹⁷⁰

Fish is mentioned in the Rigveda¹⁷¹ but we are not sure whether or how far it was used as food by the people of this age.

Fruits were eaten¹⁷² though we do not come across the names of any of them. Honey was also taken with food and drink.¹⁷³ It is curious that there is no mention of salt in the Rigveda. "It is, however, quite conceivable that a necessary commodity might happen to be passed over without

¹⁶⁰ Ibid, VI. 39. 1.

¹⁶¹ Ibid, VIII. 43. 11.

¹⁶² Ibid, X. 89. 14.

¹⁶³ Ibid, I. 162. 11.

¹⁶⁴ Ibid, I. 162. 12.

¹⁶⁵ Ibid, V. 29. 8 ; VI. 17. 11.

¹⁶⁶ Macdonell and Keith—Vedic Index, II. p. 146.

¹⁶⁷ Rigveda I. 92. 10.

¹⁶⁸ Ibid, X. 27. 2 ; X. 86. 13—14.

¹⁶⁹ Ibid, I. 162. 3, 10, 11.

¹⁷⁰ Ibid, I. 162. 13.

¹⁷¹ Ibid, VII. 18. 6 ; X. 68. 8.

¹⁷² Ibid, III. 45. 4 ; X. 146. 5.

¹⁷³ Ibid, I. 19. 9 ; I. 154. 4 ;

II. 19. 2 ; II. 37. 5 ; III. 8. 1 ;

III. 39. 6 ; III. 43. 3 ; IV. 38. 10 ;

VII. 24. 2.

literary mention in a region where it is very common, but to be referred to in a locality where it is not found and consequently becomes highly prized.”¹⁷⁴ In the Chāndogya Upaniṣad¹⁷⁵ it seems to be placed above gold in value, probably because it had to be imported at a heavy cost into the region where the Upaniṣad was composed. From the absence of any mention of salt in the Rīgveda some European scholars have come to the conclusion that the Indo-Aryans of this age did not use salt in the preparation of their food. But this, as Macdonell has observed “is a good illustration of the dangers of *argumentum ex silencio*.”¹⁷⁶ The existence of seas near the Punjab and of the Salt Range in the heart of the country precludes a supposition like that from being at all probable.

Milk furnished a nourishing drink and was called payas.¹⁷⁷ Curd was called dadhi.¹⁷⁸ Butter was prepared by churning (mantha)¹⁷⁹ and ghr̥ta was made from it by melting it on fire.¹⁸⁰ Another drink Soma was made¹⁸¹ with the pressed juice of a creeper or plant, diluted with water and mixed with milk (gavāśir), curd (dadhyāśir) and grain (Yavāśir)¹⁸² and sometimes with honey¹⁸³ The Soma plant grew on the mountains, that of Mujavant being specially renowned.¹⁸⁴ At first unmixed juice (śukra, śuchi) was offered to Indra and Vāyu¹⁸⁵ but this usage was afterwards dropped by the kṛṇvas¹⁸⁶ The whole of the Nineth Mandala of the Rīgveda and

¹⁷⁴ Macdonell and Keith—Vedic Index, II. p. 230.

¹⁷⁵ IV. 17. 7.

¹⁷⁶ Macdonell—History of Sanskrit Literature, p. 105.

¹⁷⁷ Rīgveda I. 164. 28 ; II. 14. 10 ; IV. 3. 9 ; V. 85. 2 ; X. 30. 13.

¹⁷⁸ Ibid, VIII. 2. 9 ; IX. 87. 1.

¹⁷⁹ Ibid, I. 28. 4.

¹⁸⁰ Ibid, I. 134. 6 ; II. 10. 4 ; IV. 10. 6 ; IV. 53. 5, 7, 9 ; V. 12. 1.

¹⁸¹ Read Stevenson—Sāma Veda, p. 5 ; Haug—Aitareya Brāhmaṇa, I. p. 6 ; Manning—Ancient India, I. p. 86. For the mantras used in the course of preparing the Soma beverage see Taittirīya Saṃhitā, Kāṇḍa I. Prapāṭakas II., III., IV., and kāṇḍa IV. Prapāṭakas I., II., III., and IV. The Kalpasūtras and Somaproyogas supply the details.

¹⁸² Hillebrandt—Vedische Mythologie, I. 219—22.

¹⁸³ Rīgveda IX. 103. 3.

¹⁸⁴ Ibid, I. 93. 6 ; III. 48. 2 ; V. 36. 2 ; V. 43. 4 ; V. 85. 2 ; IX. 1. 18 etc.

¹⁸⁵ Ibid, I. 137. 1 ; III. 32. 2 ; VIII. 2. 9. 10.

¹⁸⁶ Ibid, VIII. 2. 5, 9, 10, 28.

six hymns in other mandalas are most lavish in its praise. It enabled men to concentrate their mind, made them active, cured their diseases and preserved their characters.¹⁸⁷ It was also believed to prolong their lives.¹⁸⁸ But it also had an inebriating effect on its consumers, ultimately inducing sleep¹⁸⁹ and was compared with mada.¹⁹⁰ When singing the praise of Soma some R̥sis made apparently incoherent prayers for winning beautiful damsels, doubtless the result of an overdose of the drink.¹⁹¹ On the eve of a battle the warriors used to divide the Soma among themselves and drink it, probably for excitement and exhilaration.¹⁹² Surā was the name of an intoxicating spirituous liquor.¹⁹³ It has been generally condemned in the Rigveda as under its influence, men committed sins and crimes¹⁹⁴ and became devoid of sense.¹⁹⁵ It has been classed with dicing as an evil.¹⁹⁶ It was the drink of men in the Savā and gave rise to broils¹⁹⁷ Pānta was the name of another drink in the Rigveda.¹⁹⁸ As it was offered to the gods, it has been identified by commentators with Soma. But it may have been a drink of a different kind.

Sheep and Cattle-rearing : the domesticated animals—The principal animals domesticated in this age are the cow, the buffalo, the horse, camel, ass, sheep and goat. Oxen and horses were indispensable for agricultural work and milk was required not only for daily consumption but also for offering libations to the Sacred Fire twice a day and for preparing butter and ghee to enable the people to perform the annual and periodic sessions of sacrifice so that they might be blessed with sufficient rainfall for the successful cultivation of their crops. Pūshan was the god of the shepherds to whom

¹⁸⁷ Ibid, VIII. 48. 5.

¹⁸⁸ Ibid, VIII. 48. 11.

¹⁸⁹ Ibid, IX. 69. 6.

¹⁹⁰ Ibid, IX. 68. 3 ; X. 69. 3.

¹⁹¹ Ibid, IX. 67. 10, 11, 12.

¹⁹² Ibid, IX. 106. 2.

¹⁹³ According to Taittiriya Brāhmaṇa "it was, as opposed to Soma, essentially a drink of ordinary life" (Macdonell and Keith—Vedic Index, II. p. 458.)

¹⁹⁴ Rigveda VII. 86. 6.

¹⁹⁵ Ibid, VIII. 2. 12 ; VIII. 21. 14.

¹⁹⁶ Ibid, VII. 86. 6.

¹⁹⁷ Macdonell and Keith—Vedic Index, II. p. 458.

¹⁹⁸ I. 122. 1 ; I. 155. 1 ; VII. 92. 1 ; X. 88. 1.

prayers were offered.¹⁹⁹ "Give us wide pastures" was the cry.²⁰⁰ We read of cattle going to the pasture at daybreak for grazing,²⁰¹ of herdsmen driving them,²⁰² of herdsmen guarding them,²⁰³ of herdsmen calling out to the cattle²⁰⁴ and of herdsmen driving them home from the pasture.²⁰⁵ The eager solicitude for the welfare of their kine will be evident from the following verses :—

"May Pūṣhan follow near our kine ; may Pūṣhan
keep our horses safe :

May Pūṣhan gather gear for us.

Follow the kine of him who pours libations out
and worship thee ;

And ours who sing songs of praise.

Let none be lost, none injured, none sink in a pit
and break a limb

Return with these safe and sound."²⁰⁶

"Yea, let the herdsman, too, return, who marketh
well their driving forth ;

Marketh their wandering away, their turning
back and coming home

Home-leader, lead them home to us ; Indra, restore
to us our kine

We will rejoice in them alive."²⁰⁷

"May the wind blow upon our cows with healing ;
may they eat herbage full of vigorous juices.

May they drink waters rich in life and fatness :

to food that moves on feet be gracious, Rudra."²⁰⁸

From the above quotations it is evident that the cattle were objects of great care with the Rigvedic Aryans. They were kept in the cowstall,²⁰⁹

¹⁹⁹ Rigveda I. 42 ; VI. 54 ; VI. 55 ; VI. 56 ; VI. 57.

²⁰⁰ Ibid, I. 42. 8.

²⁰¹ Ibid, III. 45. 3 ; IV. 51. 8 ; V. 7. 7.

²⁰² Ibid, V. 31. 1.

²⁰³ Ibid, VI. 19. 3.

²⁰⁴ Ibid, III. 38. 9.

²⁰⁵ Ibid, VI. 49. 12 ; VI. 24. 4 ; VI. 41. 1.

²⁰⁶ Ibid, VI. 54. 5—7.

²⁰⁷ Ibid, X. 19. 5—6.

²⁰⁸ Ibid, X. 169. 1.

²⁰⁹ Rigveda .V. 23. 10 ; V. 24. 5 ; V. 45. 6 ; V. 62. 2 ; VI. 10. 3 ; VI. 17. 2
VI. 28. 1 ; VI. 45. 24 ; VI. 62. 11 ; VI. 65. 5 ; X. 169. 3, 4.

fed on barley and corn,²¹⁰ and supplied with pure drinking water raised from the wells and poured into wooden cattle-troughs which were bound with straps for being conveniently carried from the side of the wells to the cowpens.²¹¹ Prayers were offered to Agni not to burn up the places where the cattle find refuge and food.²¹² The milching of the cow was usually done by the daughter of the householder as the word *duhitr* proves.²¹³ We have already seen that besides milk and the preparations from milk, cow was also used for food and as a standard of value in purchasing goods. Oxen were used for ploughing²¹⁴ and for drawing cars and waggons.²¹⁵ The skin served the purpose of a mattress, specially for the newly married wife who had to sit on a cowhide along with her husband. The hide was also used in covering chariot.²¹⁶ We also read of wine-bottles made of leather,²¹⁷ of skins for carrying water,²¹⁸ of a skin filled with meath kept in the chariot²¹⁹ and of a skin containing curds.²²⁰ No wonder, therefore, that Rigvedic princes vied with one another in making gifts of cows to the most deserving.²²¹ The name of the sacrificial fee *dakṣiṇā* is explained as referring originally to a cow placed on the right hand of the singer of hymns for reward. The composer of the hymns of the Rigveda compares himself to the cow and his hymn to the milk.²²² The composers also delight to compare their songs to the lowing of cows to their calves.²²³

Buffalo was well known.²²⁴ We have already seen that besides its milk, its flesh was also eaten.²²⁵ That buffaloes were used in drawing cars is evident from a hymn of the Rigveda²²⁶ where mention is made of a car

²¹⁰ Ibid, X. 27. 8.

²¹¹ Ibid, X. 101. 5—7.

²¹² Ibid, I. 47. 3.

²¹³ Ibid, IX. 97. 47.

²¹⁴ Ibid, IV. 57. 4 ; X. 106. 2.

²¹⁵ Ibid, II. 2. 1.

²¹⁶ Ibid, VI. 47. 27.

²¹⁷ Ibid, I. 191. 10.

²¹⁸ Ibid, I. 85. 5.

²¹⁹ Ibid, IV. 45. 1.

²²⁰ Ibid, VI. 48. 18. Compare Krivi, Rigveda II. 17. 6 ; II. 22. 2.

²²¹ Rigveda I. 126. 1—4 ; V. 30. 12—15 ; VIII. 1. 33 ; VIII. 4. 20—21 ; VIII. 5. 37 ; VIII. 5. 47 ; I. 122. 7 ; VII. 8. 22.

²²² Ibid, I. 186. 4.

²²³ Ibid, VI. 45. 25 ; VI. 45. 28 ; VIII. 77. 1.

²²⁴ Ibid, IV. 21. 8 ; V. 29. 7, 8 ; VI. 5. 37 ; VIII. 6. 48 ; VIII. 35. 8 ; IX. 33. 1.

²²⁵ Ibid, V. 29. 8 ; VI. 17. 11.

²²⁶ Ibid, X. 102.

which was drawn by a team, one of which was a bull and the other a buffalo. Buffaloes were also objects of gifts.²²⁷

The horse has various names in the Rigveda. It was called *atya* (runner), *arvant* (the swift), *vājen* (the strong), *sapti* (runner) and *haya* (the speeding). Horses of various colours were known, *dun* (*harita*, *hari*), *ruddy* (*aruṇa*, *aruṣa*, *piśaṅga*, *rohita*) dark-brown (*śyava*), white (*śveta*) etc. The regions bordering upon the *Sindhu*²²⁸ and the *Saraswati*²²⁹ were famous as breeding places of horses. Horses were used to draw not only carts laden with harvested corn²³⁰ but also carriages or chariots containing passengers. It seems to have been considered undignified for a wealthy man to come to the sacrificial assembly in a one-horse car.²³¹ It is surprising to be told by some European scholars that though the horse was employed to draw carts and carriages or chariots, it was not used for riding.²³² Macdonell remarks "No mention is made of riding in battle."²³³ Professor Keith observes "Though horse-riding was probably not unknown for other purposes, no mention is made of this use of the horse in war."²³⁴ But as a matter of fact, we find innumerable references to horse-riding²³⁵ and even of the use of horse in war.²³⁶ Thus we read :—

"Where are your horses, where the reins ? How came ye ?
how had ye the power ?
Rein was on nose and seat on back
The whip is laid upon the flank. The heroes stretch
their thighs apart,
Like women when the babe is born."²³⁷

²²⁷ Ibid, VIII. 5. 37 ; VIII. 6. 48.

²²⁸ Ibid, X. 75. 8.

²²⁹ Ibid, I. 3. 10 ; II. 41. 48 ; VI. 61. 3, 4 ; VII. 90. 3.

²³⁰ Rigveda X. 101. 7.

²³¹ Ibid, X. 131. 3.

²³² Macdonell—History of Sanskrit Literature, p. 150.

²³³ Vedic Index, I. p. 42.

²³⁴ Rapson—Cambridge History of India, Vol. I. p. 98.

²³⁵ Rigveda I. 155. 1 ; I. 158. 3 ; I. 162. 17 ; II. 1. 6 ; II. 27. 22 ; V. 61. 2, 3 ; V. 61. 11 ; V. 53. 3 ; V. 34. 3 ; V. 64. 7 ; VIII. 5. 7, 8 ; VIII. 6. 36.

²³⁶ Rigveda II. 34. 3 ; IV. 42. 5 ; V. 61 ; VI. 33. 1 ; VI. 46. 13, 14 ; VI. 47. 31 ; IX. 37. 5 ; IX. 86. 3 ; IX. 108. 2 ; X. 6. 6 ; X. 96. 10.

²³⁷ Ibid, V. 61. 2—3.

No better description can be given of riding a horse. In another hymn addressed to the horse we read :

"If one, when seated, with excessive urging hath
with his heel or with his whip distressed thee,
All these thy woes, as with oblation's ladle at sacrifices,
with my prayer I banish."²³⁸

As regards the use of the horse in war by the cavalry we read :

"Our heroes, winged with horses, come together.
Let our car-warriors, Indra be triumphant."²³⁹

Here the poet evidently mentions two separate classes of warriors—"heroes winged with horses" (*asvaparnāh*, meaning 'riding on fleet horses') and "car-warriors." In another hymn we read :

"Heroes with noble horses (*svaśvāh*) fain for battle,
selected warriors call on me in combat.
I Indra Maghavan excite the conflict.
I stir the dust, Lord of surpassing vigour."²⁴⁰

Dadhikras is the name of the divine war-horse whose feats are described in the Rigveda.²⁴¹ The Rigvedic Aryans were also fond of horse-racing which supplied the people with fun and excitement and the horses and their riders with exercise necessary to keep them fit. Thus we read :

"Indra hath helped Etaṣa, Somapresser, contending
in the race of steeds with Sūrya."²⁴²
"To him these ladles go, to him these racing mares."²⁴³
"They have come nigh to you as treasure-lover,
like mares, fleet-footed, eager for glory."²⁴⁴

The race-course was called *Kāṣṭhā*²⁴⁵ or *āji*²⁴⁶ and the person who instituted a horse-race was called *āji-kṛt*.²⁴⁷ The Rigvedic Aryans were also fond of the race of chariots drawn by horses, for, it was "the peaceful preparation for the decisive struggle on the battle-field."²⁴⁸ Thus we read :

²³⁸ Ibid, I. 162. 17.

²³⁹ Rigveda VI. 47. 31.

²⁴¹ Ibid, IV. 38 ; IV. 39 ; IV. 40.

²⁴² Ibid, I. 145. 3.

²⁴³ Ibid, VIII. 80. 8.

²⁴⁷ Ibid, VIII. 53. 6.

²⁴⁰ Ibid, IV. 42. 5.

²⁴² Ibid, I. 61. 15.

²⁴⁴ Ibid, IV. 41. 9 ; compare also IX. 97. 25.

²⁴⁶ Ibid, IV. 24. 8 ; X. 156. 1.

²⁴⁸ Kaegi's The Rigveda, p. 19.

“Ho there ! why sittest thou (O Indra) at ease ? Make
 thou my chariot to be first :
 And bring the fame of victory near.”²⁴⁹
 “As for a chariot-race, the skilful Speaker (Soma),
 Chief, Sage, Inventor, hath with song been started.”²⁵⁰
 “Thou conquerest thus with might when car meets
 car and when the prize is staked.”²⁵¹

The horse was occasionally used for sacrifice and its flesh was partaken of by the worshippers.²⁵² Horses like cows were also objects of gift.²⁵³

Camels are frequently mentioned.²⁵⁴ They were used for carrying loads²⁵⁵ and as objects of gift.²⁵⁶

Asses are also mentioned as drawing the car of the Aświns.²⁵⁷ They were also objects of gift.²⁵⁸ Wild ass is also referred to in the Rigveda²⁵⁹ according to Von Roth.

Sheep²⁶⁰ was a very useful animal in this age, for, besides its milk and flesh, its wool was a material for clothing. Puṣhan is described in one verse²⁶¹ as “weaving the raiment of the sheep.” The Indus region was woolly (suvāsā urnāvatī)²⁶² ; Paruṣṇī also was woolly²⁶³ ; and the softest wool was of the ewes of Gāndhārans.²⁶⁴

Goats are repeatedly mentioned in the Rigveda.²⁶⁵ Puṣhan’s chariot like Thor’s in the Edda is said to be drawn by a team of goats.²⁶⁶ Besides

²⁴⁹ Rigveda, VIII. 69. 5.

²⁵⁰ Ibid, IX. 91. 1.

²⁵¹ Ibid, IX. 53. 2.

²⁵² Ibid, I. 163. 10, 12, 13, 19.

²⁵³ Ibid, I. 123. 2 ; VII. 18. 23 ; VIII. 1. 32 ; VIII. 3. 21, 22 ; VIII. 4. 19 ; VIII. 6. 47 ; VIII. 46. 23.

²⁵⁴ Ibid, I. 138. 2 ; VII. 5. 37 ; VIII. 6. 48 ; VIII. 46. 22, 31.

²⁵⁵ Ibid, I. 138. 2.

²⁵⁶ Ibid, VIII. 5 ; VIII. 46.

²⁵⁷ Ibid, I. 34. 9 ; I. 116. 2 ; I. 117. 16 ; I. 162. 21 ; IV. 36. 1 ; VIII. 74. 7.

²⁵⁸ Ibid, VIII. Balkhilya Hymn No. 8. line 3.

²⁵⁹ Ibid, X. 86. 18.

²⁶⁰ Ibid, I. 10. 2 ; I. 51. 1 ; I. 52. 2 ; etc.

²⁶¹ Ibid, X. 26. 6.

²⁶² Ibid, X. 75. 8.

²⁶³ Ibid, IV. 22. 2 ; V. 52. 9.

²⁶⁴ Ibid, I. 126. 7.

²⁶⁵ I. 162. 2 ; I. 163. 12 ; II. 39. 2 ; VII. 18. 17.

²⁶⁶ Rigveda I. 138. 4 ; IX. 67. 10 ; X. 26. 8.

the milk of the she-goat, and the flesh of the goat, its wool was a material for clothing. In early times goat-skins were worn, ajin coming from aja, a goat.

Elephants,²⁶⁷ deer,²⁶⁸ spotted deer,²⁶⁹ pigeons,²⁷⁰ swans,²⁷¹ peafowls,²⁷² parrots,²⁷³ quail,²⁷⁴ chakwa (chakravāka),²⁷⁵ cuckoo,²⁷⁶ antelopes²⁷⁷ and wild boars²⁷⁸ are also mentioned.

Economic importance of Forests—The forests were of great economic value to the Indo-Aryans of this age. In the first place, they served as natural pastures.²⁷⁹ Secondly, they were utilised as burial places and probably also as cremation grounds.²⁸⁰ Thirdly, a hymn of the Rigveda²⁸¹ makes it apparent that certain classes of people used to live in the forest tracts. Lastly, they provided the house-holder with the materials for the construction of houses, chariots, sacrificial implements and the like. Above all, they were a constant source of fuel to the community.²⁸² It is no wonder, therefore, that the people regularly prayed that the trees and the plants would be endowed with sweetness so that they might conduce to the benefit of the people—

“To us Herbs and Forest trees be gracious.”²⁸³

Again “May herbs that grow on ground and Heaven
And Earth accordant with Forest-Sovrans, and both the
World-halves round about protect us.”²⁸⁴

²⁶⁷ Ibid, I. 64. 7 ; VI. 4. 5 ; VIII. 33. 8 ; VIII. 45. 5 ; IX. 57. 3 ; X. 106. 6.

²⁶⁸ Ibid, I. 38. 5 ; I. 105. 7 ; I. 163. 1 ; VIII. 2. 6 ; IX. 32. 4.

²⁶⁹ Ibid, I. 37. 2 ; VIII. 7. 28. ²⁷⁰ Ibid, I. 30. 4 ; X. 165. 1, 2.

²⁷¹ Ibid, I. 65. 5 ; I. 163. 10 ; VIII. 35. 8 ; VII. 39. 7 ; IX. 32. 3.

²⁷² Ibid, I. 191. 14 ; III. 45. 1. ²⁷³ Ibid, I. 50. 12.

²⁷⁴ Ibid, I. 112. 8 ; I. 117. 14 ; I. 117. 16. ²⁷⁵ Ibid, II. 39. 3.

²⁷⁶ Ibid, VII. 104. 22. ²⁷⁷ Ibid, I. 64. 8 ; VIII. 4. 10.

²⁷⁸ Ibid, I. 61. 7 ; I. 88. 5 ; I. 114. 5 ; VIII. 66. 10 ; VII. 55. 4 ; IX. 97. 7 ; X. 28. 4 ; X. 67. 7 ; X. 99. 6.

²⁷⁹ Ibid, X. 146. 3 ; compare Ibid, IV. 1. 15.

²⁸⁰ Ibid, X. 18. 4, 10, 12.

²⁸¹ Ibid, X. 146. 4.

²⁸² Compare Ibid, X. 146. 4, 5.

²⁸³ Rigveda VII. 35. 5.

²⁸⁴ Ibid, VII. 34. 23.

²⁸⁵ Ibid, I. 135. 8 ; X. 31. 10 ; X. 51. 2 ; X. 97. 5.

The various useful trees mentioned in the Rigveda are:—(1) *Asvattha*²⁸⁵: from the wood of this tree and of Sami tree are made the *araṇi*, the two pieces of wood which are rubbed together to produce the sacred fire—the upper and the harder piece is the Sami and the lower and the softer is the *Asvattha* wood. The vessel for holding the Soma juice is made of the wood of this tree.²⁸⁶ Other sacrificial vessels were also made of the wood of this tree and hence it is called “the home of plants used in religious ceremonies.”²⁸⁷ (2) Same (*Acacia Suma*)²⁸⁸: its wood formed the upper log of *araṇi* which when rubbed against the lower log of *Asvattha* wood produced the sacred fire. Its juice says *Dhanwantari* when applied on the body would deprive the skin of hair. (3) *Parṇa* or *Palasa* (*Butea Frondosa*)²⁸⁹: sacrificial vessels were made of the wood of this tree and hence it is called the “mansion” of the plants used in religious ceremonies.²⁹⁰ (4) *Khadira* (*Acacia Catechu*): the pin of the axle of chariots was made of this hard wood.²⁹¹ (5) *Haritāla* (*hāridrāva*)²⁹²: according to *Sāyana* it was a kind of tree. (6) *Semala* (*Salmaalīa Malbarica*)²⁹³: it is also known as the *Śimbala* or *Sālmali* tree. Its blossoms give silk-cotton,²⁹⁴ while its wood, being hard was used in the construction of the wheels of chariots.²⁹⁵ (7) *Sinśipī*, *śīśu* tree²⁹⁶: cars were made of this timber²⁹⁷ which is called the “sovrān of the wood”²⁹⁸ (8) *Kinśuka* (*Butea Frondosa*)²⁹⁹: wheels of chariots were made of this wood.³⁰⁰ (9) *Vibhidaka* or *Vibhītaka* (*Terminalia Bellerica*)³⁰¹: These trees were tall, of windy heights and their nuts were used as dice in early times.³⁰² (10) *Kākambara*³⁰³ it is apparently the name of some umbrageous tree.³⁰⁴

²⁸⁵ Ibid, I. 135. 8.

²⁸⁶ Ibid, X. 97. 5 ; X. 51. 2.

²⁸⁷ Ibid, X. 97. 5.

²⁸⁸ Rigveda III. 53. 19.

²⁸⁹ Ibid, III. 53. 22 ; VII. 50. 3 ; X. 85. 20.

²⁹⁰ Ibid, X. 85. 20.

²⁹¹ Ibid, III. 53. 19.

²⁹² Ibid, X. 85. 20.

²⁹³ Ibid, X. 34. 1.

²⁹⁴ Ibid, VI. 48. 7.

²⁹⁵ Griffith—Rigveda, Vol. I. p. 614 fn.

²⁸⁷ Ibid, X. 97. 5.

²⁸⁸ Ibid, IV. 27. 4 ; X. 97. 5.

²⁸⁹ Ibid, I. 50. 12.

²⁹⁰ Ibid, III. 53. 22.

²⁹¹ Ibid, III. 53. 19.

²⁹² Ibid, III. 53. 20.

²⁹³ Ibid, X. 85. 20.

²⁹⁴ Ibid, X. 34. 1

Various species of grass are also mentioned in the Rigveda :—

(1) Dūrvā³⁰⁵ (*Panicum Dactylon*) : it is a species of bent grass whose filaments stretch horizontally away from the stem. (2) Kuśa³⁰⁶ (*Poa Cynosuroides*) : this grass, after its roots are cut off, is spread on the sacrificial altar ; and upon it the libation of Soma juice or oblation of clarified butter is poured out. It is also spread over the sacrificial ground or floor to serve as a seat for the gods and the sacrificers. The flame produced by the attrition of the two logs of wood which constituted the araṇi was caught by the tuft of Kuśa grass carefully kept between the two.³⁰⁷ (3) Munja³⁰⁸ : the strainer through which Soma juice was filtered was made also of this grass.³⁰⁹ (4) Balbaja³¹⁰ (*Eleusine Indica*) : it was a species of coarse grass used in religious ceremonies and for other purposes when plaited.³¹¹ Besides these, different varieties of grass like Sara, Darbha, Kuśara, Sairya and Virāṇa are mentioned in which snakes and other venomous reptiles lurk.³¹²

Among the plants Soma was undoubtedly the most important, for, as we have seen, its juice was used in sacrificial drink. It grew on the mountains, that of Mujavant being specially renowned.³¹³ Medicinal herbs and plants are frequently mentioned in the Rigveda.³¹⁴ In the tenth maṇḍala of the Rigveda we find a hymn of twenty-three stanzas in praise of medicinal herbs and plants.³¹⁵ Of these Pātā³¹⁶ is mentioned, probably identical with Pāthā (*Clypea Hernandifolia*), a climbing plant, possessing various medicinal properties.³¹⁷

Hunting and Fishing—Besides agriculture and cattle-rearing, hunting and fishing remained the occupation of a large section of the people,

³⁰⁵ Rigveda X. 134. 5 ; X. 142. 8.

³⁰⁶ Ibid, I. 4. 3 ; III. 29. 1.

³⁰⁷ Rigveda III. 29. 1. In the Śatapati Brāhmaṇa V. 2. 1, 8 the wife of the sacrificer wears a garment of Kuśa grass for some rites—a relic of primitive dress.

³⁰⁸ Rigveda I. 161. 8 ; I. 191. 3.

³⁰⁹ Ibid, I. 161. 8.

³¹⁰ Ibid, VIII. Bāḥkilya 7. 3.

³¹¹ Griffith's Rigveda Vol. II. p. 265 fn.

³¹² Rigveda I. 191. 5.

³¹³ Ibid, I. 93. 6 ; III. 48. 2 ; V. 36. 2 ; V. 43. 4 ; V. 85. 2 ; IX. 1. 18. etc.

³¹⁴ Ibid, I. 43. 2 ; VII. 34. 23 ; VII. 35. 5.

³¹⁵ Ibid, X. 97.

³¹⁶ Ibid X. 145. 1.

³¹⁷ Griffith's Rigveda, Vol. II. p. 589 fn.

specially the aborigines. The word *śva-ghnin* occurs in the *Rigveda*³¹⁸ in the sense of hunter as well as gambler. The arrow was employed in hunting down beasts³¹⁹ and the normal instruments of capture were nets and pitfalls. Nets were called *pāśa*³²⁰ or *nidhā*,³²¹ the hunter being called *pāśin*. Pits were used for capturing antelopes (*ṛṣya*) and so were called *ṛṣya-da*, antelope-catching. Hunters chasing a deer³²² and wild elephants³²³ are referred to. Lions were captured in pits covered with snares³²⁴ or were surrounded by the hunters and slain.³²⁵ In another passage³²⁶ we read that "the Soma flows on in order to be taken up and used in libations as a lion goes to the place where men lie in wait to capture him or where a pitfall has been prepared to entrap him."³²⁷ The capture of the wild steer is referred to thus :

"Even the wild steer in his thirst is captured : the
leather strap still holds his foot entangled"³²⁸

Wild bulls were sometimes hunted down with the arrow 'from the archer's bow-string'.³²⁹ The boar was captured in the chase with the help of hounds "who seize him and bite him in the ear."³³⁰ Birds were caught in nets, the bird-catcher being called *nidhipati*. Sometimes birds were shot down with the arrow.³³¹

Fish is mentioned in the *Rigveda*³³² as well as pearls.³³³

The growth of arts and crafts—As regards the arts and crafts of this period scholars differ. According to Professor Kaegi "In arts the race still stood on the lowest stage"³³⁴ ; while Professor Ragozin and Macdonell hold the opposite view. According to Macdonell "already in this period

³¹⁸ I. 92. 10 ; II. 12. 4, 5 ; IV. 20. 3 ; VIII. 45. 38.

³¹⁹ *Rigveda*, IV. 58. 6 ; X. 51. 6.

³²⁰ *Ibid*, III. 45. 1 ; VI. 45. 17.

³²¹ *Ibid*, IX. 83. 4 ; X. 73. 11.

³²² *Ibid*, VIII. 2. 6.

³²³ *Ibid*, X. 40. 4.

³²⁴ *Ibid*, X. 28. 10.

³²⁵ *Ibid*, V. 15. 3.

³²⁶ *Ibid*, V. 74. 4.

³²⁷ Griffith's *Rigveda*, Vol. I. p. 542 fn.

³²⁸ *Rigveda* X. 28. 10.

³²⁹ *Ibid*, X. 51. 6.

³³⁰ *Ibid*, X. 86. 4.

³³¹ *Ibid*, II. 42. 2.

³³² *Ibid*, VII. 18. 6 ; X. 68. 8.

³³³ *Ibid*, I. 35. 4 ; I. 126. 4 ; VII. 18. 23 ; X. 68. 11.

³³⁴ Introduction to the *Rigveda*, p. 40.

specialisation in industry had begun.” The chief impulse for this specialisation had come from the ever-increasing agricultural and military needs of the community, settled in the midst of a hostile population. There was a well-marked tendency towards division of labour and the growth of various sub-crafts, leading ultimately to the organisation of craftsmen even into guilds. A further impetus towards the development of industry came from the fact that in this age some of the craftsmen like the Ratha-kāra and the Takṣan enjoyed a considerable social status. They stood in close relation to the king of whom they were regarded as *sti* or clients.³³⁵

From the researches of Professors Max Muller³³⁶ and Schrader³³⁷ regarding the Indo-European group of languages we find great similarity existing between the Sanskrit words *Tan* and *Tanti* (string) and *Zend Tan* and *Greek Teinō* and *Latin Tendo*, all meaning stretching. For weaving we have the Sanskrit root *Ve*, akin to *Latin Vieo* and *Teutonic Weban*. Similarly, Sanskrit *Takṣan* is akin to *Zend Tashan* and *Greek Tektan*, all meaning a carpenter. For plaiting we have the Sanskrit root *Pre*, akin to *Greek Plekō* and *Latin Plico*, all similar in sound and meaning. The conclusion may, therefore, be safely drawn that a common knowledge of some of these crafts (*e.g.*, those of the weaver, the carpenter and the plaiter of grass and reeds) existed among the people speaking the Indo-European group of languages.

(1) *Weaving industry*—The *Rigveda* contains many passages which show that even then the people were perfectly familiar with the art of weaving. The passages, it must be confessed, are brief and casual, occurring mostly by way of similes and metaphors in hymns designed for the glorification of particular divinities; but they are none the less interesting and suggestive on that account. Thus the verse “Night and Morning like female weavers interweave in concert the long-extended thread, the web of worship”³³⁸ gives only a simile, yet that refers to a familiar fact whose existence cannot be questioned. Again we have a verse³³⁹

³³⁵ *Rigveda* X. 97. 23; Macdonell and Keith—*Vedic Index*, Vol. I. p. 96.

³³⁶ *Biographies of Words*.

³³⁷ *Reallexikon der Indogermanischen Altertumskunde*.

³³⁸ *Rigveda* II. 3. 6.

³³⁹ *Ibid*, II. 38. 6.

which Wilson following Sāyana paraphrases thus : "She (Night) enwraps the extended (world) like (a woman) weaving (a garment)." ³⁴⁰ Elsewhere we read "Mothers weave garments for him their offspring." ³⁴¹ The words tantum, otum and vayanti occur in the following verse ³⁴² : "I know not either warp or woof, I know not web they weave when moving to the contest." Here the threads of the warp (tantum) are the metres of the Vedas, those of the woof (otum), the liturgic prayers and ceremonial, the combination of which two is the cloth or sacrifice. According to the Vedantists the threads of the warp are the subtle elements, those of the woof the gross and their combination the universe. Tantum and Otum are also referred to figuratively in the following verse : "For both the warp and the woof he understandeth and in due time shall speak what should be spoken." ³⁴³ Tantra meaning warp or loom ³⁴⁴ and tasara meaning weaver's shuttle ³⁴⁵ are also mentioned. Vāya meaning a weaver occurs in the Rigveda ³⁴⁶ as also various uses of the root vā. ³⁴⁷ The expression vāso-vāya shows that other "Vāya"s had already arisen who produced sundry piece-goods other than the standard vāsas or wearing cloth ; besides there were the female weavers called "Sirī"s. ³⁴⁸ Female weavers are often referred to in the Rigveda ³⁴⁹ and there is a fling at spinsters who spin out thread in ignorance. ³⁵⁰ Indeed we have a large number of words showing the extensive use of woven garments. Thus we have at least three words to denote the ordinary wearing cloth viz., Vāsas, vastra and vasana. We read—

"To you as to a vāsas in winter, we cleave close." ³⁵¹

"When he (Sun) hath lossed his Horses from their station,
straight over all Night spreadeth out her vāsas." ³⁵²

³⁴⁰ Wilson's Rigveda II. p. 207.

³⁴¹ Ibid, V. 47. 6.

³⁴² Rigveda V. 9. 3.

³⁴³ Ibid, X. 130. 2.

³⁴⁴ Macdonell and Keith—Vedic Index : 'Vāya' and 'otu.'

³⁴⁵ Rigveda X. 71. 9.

³⁴⁶ Ibid, II. 3. 6 ; II. 38. 4. cf. V. 47. 6.

³⁴⁷ Ibid, X. 71. 9.

³⁴⁸ I. 115. 4.

³⁴⁹ Ibid, VI. 9. 2.

³⁵⁰ Ibid, X. 71. 9.

³⁵¹ Ibid, X. 26. 6.

³⁵² Rigveda I. 34. 1.

- “Vāsas is body, food in life and healing ointment
giveth strength.”³⁵³
- “Loose in the wind the woman’s vāsas was streaming.”³⁵⁴
- “O worthy of oblation, Lord of prospering powers,
assume they vastra.”³⁵⁵
- “For thee the radiant Dawns in the far distant sky
broaden their lovely vastra forth in wondrous beams.”³⁵⁶
- “Anspicious, clad in white and shining vastra.”³⁵⁷
- “Loudly the folk cry after him in battles, as it were
a thief who steals away a vastra.”³⁵⁸
- “Like fair and well-made vastras, I seeking riches,
as a deft craftsman makes a car, have wrought them.”³⁵⁹
- “Yea from his Mother draws he forth a new vasana.”³⁶⁰

The vāsas seem to have borders and fringes denoted by the word *sic*. Thus in one hymn of the Rigveda³⁶¹ the child is covered by its mother’s *sic* and in another³⁶² the horizons at Sunrise and Sunset are said to be the two *sican* of the sky-cloth. In yet another hymn³⁶³ we read “I grasp, mighty Indra, thy garment’s hem as a child his father’s.” The upper part of the body was covered by another separate garment called *adhivāsa*.³⁶⁴ The forests are the *adhivāsa* of mother earth licked by the fire-child.³⁶⁵ The *drāpi*³⁶⁶ is not a coat of mail as the authors of the Vedic Index say, for, it was worn by women as well. In Atharvaveda³⁶⁷ *Arati* is called *hiraṇya-drāpi* and is likened to a courtesan for wearing it. Moreover, the use of *vasānah*³⁶⁸ would rather show that it was made of vāsas. Further in the Atharvaveda³⁶⁹ the Sun wearing the three worlds

³⁵³ Ibid, VIII. 3. 24.

³⁵⁴ Ibid, X. 102. 2.

³⁵⁵ Ibid, I. 26. 1.

³⁵⁶ Ibid, I. 134. 4.

³⁵⁷ Ibid, III. 39. 2.

³⁵⁸ Ibid, IV. 33. 5.

³⁵⁹ Ibid, V. 29. 15.

³⁶⁰ Ibid, I. 95. 7. For other references to woven garments read Rigveda I. 140. 1 ; I. 152. 1 ; II. 14. 3 ; III. 1. 6 ; III. 8. 4 ; V. 42. 8 ; V. 57. 4—5 ; VI. 4. 3 ; VI. 11. 6 ; VI. 35. 1 ; VI. 47. 23 ; IX. 8. 6 ; IX. 96. 1 ; X. 71. 4.

³⁶¹ X. 18. 11.

³⁶² Rigveda, I. 95. 7.

³⁶³ Ibid, III. 53. 2.

³⁶⁴ Rigveda I. 140. 9 ; X. 5. 4.

³⁶⁵ Ibid, I. 140. 9.

³⁶⁶ Ibid, I. 116. 10 ; IV. 53. 2 ; IX. 100. 9.

³⁶⁷ V. 7. 10.

³⁶⁸ Compare *drāpim vasānah*, Rigveda IX. 86. 14.

³⁶⁹ XIII. 3. 1.

is said to have made a drāpi of them, so that drāpi like a vest or waist-coat had three pieces—two side ones and one back. It was close-fitting³⁷⁰ and gold-embroidered.³⁷¹ The atka³⁷² was worn by men only and was a long³⁷³ and fully covering³⁷⁴ close-fitting³⁷⁵ cloak, bright³⁷⁶ and beautiful,³⁷⁷ the stuff being bleached³⁷⁸ cotton³⁷⁹ interwoven³⁸⁰ or embroidered³⁸¹ with gold threads. Peśas³⁸² is gold embroidered cloth,³⁸³ the designs being artistic and intricate³⁸⁴ and the inlay of gold heavy and brilliant.³⁸⁵

The material for clothing was probably wood (ūrnā). Puśan is described as vāso-vāya, weaving woolen cloth.³⁸⁶ Indra is "wearing wool Paruṣhṇe for adornment"³⁸⁷ while the Maruts are said to "tarry on the Paruṣhṇe, putting on robes of wool."³⁸⁸ In another hymn we learn of "weaving the raiment of the sheep."³⁸⁹ In this age the wool of Gāndhāra,³⁹⁰ of the Paruṣhṇi country³⁹¹ and of Sind³⁹² was highly prized.

³⁷⁰ Rigveda I. 166. 10 (Cyavāna's old age like a drāpi); probably drāpi = a tight vest suitable for running about (drā).

³⁷¹ Ibid, I. 25. 13 (hiranyayam); IV. 53. 2 (piśaṅgam).

³⁷² Ibid, I. 95. 7; I. 122. 2; IV. 18. 5; VI. 29. 3; VIII. 41. 7 etc.

³⁷³ Ibid, II. 35. 14 (food carried in one's own atka : i.e., in the long skrit made into an apron).

³⁷⁴ Ibid, V. 74. 5 (vavriṃ atkaṃ, likened to Cyavana's old age).

³⁷⁵ Surabhipatkaṃ : Rigveda VI. 29. 3; X. 123. 7.

³⁷⁶ Like Sun : Rigveda VI. 29. 3; X. 123. 7.

³⁷⁷ Sudṛśi : Rigveda I. 122. 2.

³⁷⁸ Śukram : Rigveda I. 95. 7.

³⁷⁹ As vyūtam (Rigveda I. 122. 2) and frequent use of vasānah shows.

³⁸⁰ Hiranyair vyūtam : Rigveda I. 122. 2.

³⁸¹ Hiranyayān : Rigveda V. 56. 6.

³⁸² Rigveda I. 92. 4; IV. 36. 7; II. 3. 6; VII. 34. 11; X. 114. 3 etc.

³⁸³ Rigveda IV. 36. 7. VIII. 31. 11; VII. 42. 1.

³⁸⁴ Ibid, II. 3. 6.

³⁸⁵ Ibid, VII. 34. 11 (the glittering surface of rivers = peśas). Compare X. 114. where peśas is called bright as ghee (i.e., golden.)

³⁸⁶ Rigveda X. 26. 6.

³⁸⁷ Ibid, IV. 22. 2.

³⁸⁸ Ibid, V. 52. 9.

³⁸⁹ Ibid, X. 26. 6.

³⁹⁰ Ibid, I. 126. 6—7.

³⁹¹ Ibid, IV. 22. 2; V. 52. 9.

³⁹² Ibid, X. 75. 8.

In the Rigveda there is no mention of cotton (*kārpās*) though silk-cotton tree was known. When, however, we bear in mind that already in the Calcholithic age the people of the Punjab and Sind knew the use of cotton and cotton-weaving the following remarks of Professor Muir gain added strength : "It is difficult to conceive that cotton (which as we learn from Professor S. H. Balfour, is supposed to have been indigenous in India), though not mentioned in the hymns, should have been unknown when they were composed or not employed for weaving the light cloth which is necessary in so warm a climate."³⁹³ Long ago Professor Ragozin also wrote in the same strain "The Aryan settlers of Northern India had already begun at an amazingly early period to excel in the manufactures of the delicate tissue which has ever been and is today doubtless incomparably great in perfection, one of their industrial glories—a fact which implies cultivation of cotton-plant or tree."³⁹⁴

Metal industry—The metal industry was also in a highly developed condition "but it is, however, still uncertain" says Mr. Macdonell "what that metal which was called *ayas* was." The evidence of some of the old texts is often misleading. Thus in the Śatapatha Brāhmaṇa³⁹⁵ *ayas* is any metal which is neither gold nor lead. In the Vājasenīya Saṃhitā³⁹⁶ *ayas* is separated from Loha and Śyāmam. From the Atharvaveda³⁹⁷ and even the Rigveda³⁹⁸ the sense of iron for *ayas* is certain. Professor Schrader in his Prehistoric Antiquities well points out that Sanskrit *ayas* = Latin *aes* = Goth *aiz* = Zend *ayarih*, meaning pure dark copper and it is, therefore, quite probable that *ayas* of the Rigveda was neither iron nor bronze but the pure dark copper, a knowledge of which was common to all the Indo-European peoples. He further points out that "a series of names of copper gradually assumes the name of iron." Thus Sanskrit Loha originally meant copper but later it was used to denote iron.³⁹⁹

³⁹³ Muir's Sanskrit Texts, V. p. 462.

³⁹⁴ Ragozin—Vedic India, p. 306.

³⁹⁵ V. 1. 2. 14.

³⁹⁶ XVIII. 13.

³⁹⁷ X. 3. 17.

³⁹⁸ V. 25.

³⁹⁹ Schrader—Prehistoric Antiquities, p. 212 ; Max Muller—Biographica, of Words, Appendix V. ; Macdonell and Keith— Vedic Index, I. p. 32.

In the Rigveda we have distinct references to the smelting of metals⁴⁰⁰ and the business of the smith.⁴⁰¹ Vessels called mahāvira or gharma made of ayas⁴⁰² and receptacles hammered or formed with a tool of ayas⁴⁰³ are mentioned. We also read of chariots whose pillars or rather poles were made of ayas.⁴⁰⁴ Knives made of ayas,⁴⁰⁵ axes wrought of good metal,⁴⁰⁶ arrows tipped with ayas⁴⁰⁷ and the bits of the horse made of ayas⁴⁰⁸ are also mentioned. Swords,⁴⁰⁹ breast-plates,⁴¹⁰ lances,⁴¹¹ spears,⁴¹² daggers,⁴¹³ rings or quoits,⁴¹⁴ hatchets,⁴¹⁵ axes,⁴¹⁶ knives,⁴¹⁷ awls,⁴¹⁸ sickle,⁴¹⁹ hooks,⁴²⁰ nails,⁴²¹ needles⁴²² and razors⁴²³ are mentioned.

According to Professor Schrader gold was known to the Indo-Iranians as is proved by the similarity between Sanskrit *hiranya* and zend *zaranya*; and as a matter of fact we find innumerable references to gold and its use in the manufacture of weapons and ornaments as well as in exchange. Golden helmets for the head,⁴²⁴ golden swords,⁴²⁵ golden fellies,⁴²⁶ cars

⁴⁰⁰ Rigveda IV. 2. 17; V. 9. 5; VI. 3. 4; VI. 12. 3; IX. 72. 2; X. 81. 3.

⁴⁰¹ Ibid., IX. 72. 2; IX. 112. 2.

⁴⁰² Ibid., V. 30. 15.

⁴⁰³ Ibid., IX. 1. 2; IX. 80. 2.

⁴⁰⁴ Ibid., V. 62. 7; V. 62. 8.

⁴⁰⁵ Ibid., VIII. 29. 3,

⁴⁰⁶ Ibid., X. 53. 9.

⁴⁰⁷ Ibid., VI. 75. 15.

⁴⁰⁸ Ibid., IV. 37. 4.

⁴⁰⁹ Ibid., I. 37. 2; I. 87. 6; I. 88. 3; V. 53. 4; X. 20. 6.

⁴¹⁰ Ibid., V. 53. 4.

⁴¹¹ Ibid., I. 64. 4; I. 88. 1; V. 54. 11; V. 55. 1; V. 60. 3; VIII. 20. 11.

⁴¹² Ibid., I. 31. 1; I. 37. 2; I. 83. 4; I. 87. 3; I. 167. 3; I. 169. 3; V. 57. 2; X. 78. 7.

⁴¹³ Ibid., V. 57. 2.

⁴¹⁴ Ibid., I. 64. 10; I. 87. 6; I. 166. 9; I. 168. 3; VIII. 85. 9; X. 38. 1; X. 73. 9.

⁴¹⁵ Ibid., III. 8. 11; VI. 3. 4.

⁴¹⁶ Ibid., I. 162. 9; I. 162. 18; III. 2. 1; III. 2. 10; III. 52. 22; V. 48. 4; VII. 3. 9; VII. 83. 1; VII. 104. 21; VIII. 62. 17; IX. 96. 6; X. 53. 10.

⁴¹⁷ Ibid., I. 130. 4; cf. I. 166. 10.

⁴¹⁸ Ibid., VI. 53. 6.

⁴¹⁹ Ibid., I. 58. 4; IV. 20. 5; VIII. 67. 10; X. 101. 3.

⁴²⁰ Ibid., I. 162. 3; III. 45. 4.

⁴²¹ Ibid., I. 162. 9.

⁴²² Ibid., II. 33. 4.

⁴²³ Ibid., VIII. 4. 16; X. 28. 9; cf. X. 142. 4.

⁴²⁴ Ibid., II. 34. 3; VIII. 7. 25.

⁴²⁵ Ibid., I. 42. 6; VII. 97. 7; VIII. 7. 32.

⁴²⁶ Ibid., I. 64. 11.

with golden seats,⁴²⁷ chariots decked with gold,⁴²⁸ golden mail,⁴²⁹ golden coloured mail,⁴³⁰ golden mantles,⁴³¹ spears and weapons bright with gleaming gold⁴³² and arrows decked with gold⁴³³ are mentioned.

Gold ornaments are frequently mentioned.⁴³⁴ Gold chains worn on the breast,⁴³⁵ gold on the priest's finger,⁴³⁶ visors of gold for the head,⁴³⁷ gold trappings for horses,⁴³⁸ golden ornaments for kine⁴³⁹ and golden goad for horses⁴⁴⁰ are mentioned. Besides golden ornaments we find many references to glittering ornaments.⁴⁴¹ In the four Vedas, however, the word *alaṃkāra* does not occur.⁴⁴² The words *araṃkṛta* and *araṃkṛti*, having the sense of ornament do occur. From the Rigveda we get the names of the following ornaments of this period :—(1) *Anūka*. Geldner takes it as an ornament, though Loth, Ludwig and Oldenburg take it as an adverb only. But as the Vedic commentators have taken it to be an ornament, we may accept it as such. (2) *Opāśa*.⁴⁴³ It was used for adorning the head. Roth thinks that it was a corruption of *aba + paśa* and hence meant hair-tape or hair net.⁴⁴⁴ (3) *Karṇa-śovana*.⁴⁴⁵ It means an ornament for the ears, hence earring. (4) *Kukīra*.⁴⁴⁶ According to

⁴²⁷ Ibid., IV. 46. 4.

⁴²⁸ Ibid., V. 57. 1 ; VII. 69. 1 ; VIII. 5. 35 ; VIII. 46. 24.

⁴²⁹ Ibid., I. 25. 13.

⁴³⁰ Ibid. IV. 53. 2.

⁴³¹ Ibid., V. 55. 6.

⁴³² Ibid., V. 52. 6.

⁴³³ Ibid., VIII. 66. 11.

⁴³⁴ Ibid., I. 85. 3 ; V. 56. 1 ; VII. 57. 3 ; VIII. 20. 11 ; X. 46. 33.

⁴³⁵ Ibid., I. 64. 4 ; I. 166. 10 ; V. 54. 11 ; X. 78. 2 ; cf. VIII. 20. 22.

⁴³⁶ Ibid., VIII. 29. 1 ; IX. 27. 4 ; IX. 55. 1 ; IX. 86. 43 ; IX. 97. 1.

⁴³⁷ Ibid., V. 54. 11.

⁴³⁸ Ibid., IV. 2. 8 ; IV. 37. 4.

⁴³⁹ Ibid., VIII. 54. 10.

⁴⁴⁰ Ibid., VIII. 55. 3.

⁴⁴¹ Ibid., I. 37. 2 ; I. 64. 4 ; I. 166. 10 ; V. 53. 4 ; VIII. 20. 7 ; VIII. 67. 2.

⁴⁴² The word *alaṃkāra* occurs for the first time in the *Śatapatha Brāhmaṇa* :
Añjanāvyañjane prayachchatieṣaḥ amānuṣaḥ alaṃkāraḥ, XIII. 84. 7 ; also
III. 5. 1. 36.

⁴⁴³ Rigveda, X. 85. 8.

⁴⁴⁴ Bloomfield in his *Hymns of the Atharvaveda*, pp. 538—39 takes it meant coverlet for women (*Orṇā*). Prof. Subimal Sarkar in his *Some Aspects of the Earliest Social History of India*, pp. 71—72 take it to mean a style of hair-dressing.

⁴⁴⁵ Rigveda, I. 112. 14 ; VIII. 67. 3.

⁴⁴⁶ Ibid., X. 85. 8.

Zimmer it means peacock and therefore may well have been an arch-like ornament.⁴⁴⁷ (5) *Kṛśan* (6) *Kṛśanin* (7) *Khādi*. According to Roth it was of three kinds : (a) an ornament for the legs like anklets⁴⁴⁸ (b) an ornament for the arms like modern armlets or for the wrists like modern bangles⁴⁴⁹ and (c) ring for the fingers.⁴⁵⁰ (8) *Niṣka*. It was a necklace consisting of niṣkas, a kind of coins, as the word niṣkagṛiva⁴⁵¹ would show. (9) *Nyochanī*. (10) *Puṇḍarīka* (11) *Puṣkara* (12) *Pravūṣaṇa* (13) *Varhana* (14) *Vūṣaṇa* (15) *Maṇi*.⁴⁵² It was a jewel worn on the neck, as the word maṇigṛiva⁴⁵³ would prove, by means of a thread.⁴⁵⁴ According to the commentator Dūrgacārya⁴⁵⁵ maṇi = āditya-maṇi, Sūryakānta-maṇi. (16) *Ratna* (17) *Rukma*.⁴⁵⁶ It was an ornament worn on the breast,⁴⁵⁷ as the epithet rukma-vakṣas⁴⁵⁸ would prove. It appears to have been worn by the males as well, for, the Maruts or Wind-gods are described as decorated with it.⁴⁵⁹ (18) *Rukmi* (19) *Laṭāmī*. It was a tiara worn on the forehead like a frontlet. (20) *Varimat* (21) *Vyāñjana*. (22) *Viṣana* (23) *Śatapatra* (24) *Sivana*. (25) *Suniṣka*. (26) *Stūkā* (27) *Hiraṇyayī* (28) *Hiraṇyāśipra* (29) *Hirimat*.

Carpentry—The worker in wood constructed carts,⁴⁶⁰ chariots⁴⁶¹ for war and race, ferry-boats⁴⁶² and ships.⁴⁶³ Chariots were usually made of the wood of the Sinṣipā tree ;⁴⁶⁴ the wheels of the chariots were made of

⁴⁴⁷ Mr. Subimal Sarkar in his *Some Aspects of the Earliest Social History of India*, p. 72 takes it to be a kind of horn-shaped Coiffure.

⁴⁴⁸ *Rigveda*, V. 53. 4 ; V. 53. 11.

⁴⁴⁹ *Ibid.*, I. 64. 10.

⁴⁵⁰ *Ibid.*, I. 168. 3.

⁴⁵¹ *Ibid.*, V. 19. 3.

⁴⁵² *Ibid.*, I. 33. 8.

⁴⁵³ *Ibid.*, I. 122. 14.

⁴⁵⁴ *Pañchaviṃśa Brāhmaṇa* XX. 16. 6.

⁴⁵⁵ VII. 23.

⁴⁵⁶ *Rigveda*, I. 166. 10.

⁴⁵⁷ Cf. *Rukmapāśa* in the *Śatapatha Brāhmaṇa* VI. 7. 1. 7.

⁴⁵⁸ *Rigveda* II. 34. 2 ; II. 34. 8 ; V. 55. 1 ; V. 57. 5 etc.

⁴⁵⁹ *Ibid.*, V. 54. 11.

⁴⁶⁰ *Rigveda*, II. 2. 1.

⁴⁶¹ *Ibid.*, I. 61. 4 ; I. 94. 1 ; I. 130. 6 ; V. 2. 11 etc.

⁴⁶² *Tāraḥ*, *Rigveda* I. 190. 7.

⁴⁶³ *Rigveda*, I. 116. 4 ; I. 116. 5 ; I. 25. 7 ; I. 48. 3 ; I. 97. 7 ; I- 131. 2 ; V. 25. 9 ; V. 45. 10 ; V. 54. 4 ; V. 59. 2 ; VI. 58. 3 ; VIII. 18. 17 ; VIII. 64. 9 ; VIII. 72. 3 ; IX. 73. 1.

⁴⁶⁴ *Ibid.*, III. 53. 19.

the wood of the Śemal tree⁴⁶⁵ and of the Sinsīpā tree;⁴⁶⁶ and the pin of the axle of chariots was made of the wood of the Khadira tree.⁴⁶⁷ The fashioning of chariots was a frequent source of metaphor, the poet comparing his own skill of composing hymns to that of the wheel-wright.⁴⁶⁸ The carpenter's work (takṣaṇa) is also referred to in many passages.⁴⁶⁹ One passage⁴⁷⁰ even describes "the carpenter who usually bends over his work till his back aches." Sacrificial vessels were made usually of Palāśa wood.⁴⁷¹ Wooden buckets⁴⁷² wooden vessels,⁴⁷³ large wooden sacrificial ladle,⁴⁷⁴ small wooden ladle, specially for Soma libation,⁴⁷⁵ wooden ladle,⁴⁷⁶ wooden posts with carved images of girls on them⁴⁷⁷ and wooden bedsteads are mentioned. Of the last there were three varieties: (1) the *talpa*⁴⁷⁸ (2) the *proṣṭha*⁴⁷⁹ and (3) *vahya*.⁴⁸⁰ Talpa was apparently the nuptial bedstead as the special use of the word *tālpa*⁴⁸¹ in the sense of legitimate son, being born on the nuptial bed⁴⁸² and its being made of sacred udambara wood would indicate. Proṣṭha as the epithet *proṣṭhaśaya* would show was a furniture to recline on; while vahya was a couch as proved by the simile in the Atharvaveda⁴⁸³ like a tired bride ascending the vahya.

Pottery—The potter's art was also known. We read of Indra smashing the enemies like earthen vessels.⁴⁸⁴ We also read of girls bearing water in their jars-⁴⁸⁵ evidently made of pottery.

⁴⁶⁵ Ibid., X. 85. 20

⁴⁶⁶ Ibid., III. 53. 19.

⁴⁶⁷ Ibid., III. 53. 19.

⁴⁶⁸ Ibid., I. 61. 4; I. 94. 1; I. 130. 6; III. 38. 1; V. 2. 11; V. 29. 15.

⁴⁶⁹ Ibid., IV. 35. 6; IV. 36. 5; VI. 32. 1.

⁴⁷⁰ Ibid., I. 105. 18.

⁴⁷¹ Ibid., X. 97. 5.

⁴⁷² Ibid., X. 101. 7.

⁴⁷³ Cf. *Hvārā*, Rigveda, I. 180. 3. According to Ludwig it means neither a snake nor a thief but a tub or wooden vessel. The common name for a wooden vessel was *drona*, Rigveda, VI. 2. 8; VI. 37. 2; VI. 42. 10; IX. 65. 6; IX. 92. 6; IX. 93. 1.)

⁴⁷⁴ *Sruc*, Rigveda, I. 84. 18; I. 110. 6; I. 144. 1.

⁴⁷⁵ *Sruva*, Rigveda, I. 116. 24; I. 121. 6.

⁴⁷⁶ *Dravi*, Rigveda, V. 6. 9; X. 105. 10.

⁴⁷⁷ Rigveda, IV. 32. 23.

⁴⁷⁸ Ibid., VII. 55. 8.

⁴⁷⁹ Ibid., VII. 55. 8.

⁴⁸⁰ Ibid., VII. 55. 8.

⁴⁸¹ Śatapatha Brāhmaṇa XIII. 1. 6. 2.

⁴⁸² Taittirīya Brāhmaṇa.

⁴⁸³ IV. 20. 3.

⁴⁸⁴ Rigveda, VII. 104. 21; X. 89. 7.

⁴⁸⁵ Ibid., I. 119. 14.

Leather work—The tanner (*carmanṇa*)⁴⁸⁶ and the leather-worker are also mentioned.⁴⁸⁷ We read of leather-receptacles for storing wine,⁴⁸⁸ meat,⁴⁸⁹ curds⁴⁹⁰ and water,⁴⁹¹ leather-straps for chariots⁴⁹² etc.

Manufacture of liquor—The principal liquors manufactured were the Soma and the Surā. The juice was extracted from the Soma plant by being pounded with stones,⁴⁹³ held in the hands.⁴⁹⁴ Then the juice was squeezed out with the fingers,⁴⁹⁵ and strained through a sieve made of wool⁴⁹⁶ or of muñja grass.⁴⁹⁷ Thus strained, the juice was blended with milk or curds.⁴⁹⁸ Another intoxicating liquor manufactured was the Surā. According to the Taittiriya Brāhmaṇa "it was, as opposed to Soma, essentially a drink of ordinary life."⁴⁹⁹ Pānta was the name of another drink in this age.⁵⁰⁰ As it was offered to the gods, commentators identified it with Soma. But it may well have been a drink of a different kind.

House-building—Though we have no extant remains of any building of this period, the great variety of words denoting a house to be found in the Rigveda shows that the people were long settled with a tradition of house-building. Agni raising his smoke to heaven has been compared to the builder of a house, rearing up a structure.⁵⁰¹ Measurement in connection with the building of a house or chamber is also referred to.⁵⁰² *Gaya*⁵⁰³ is a common word for the house, inclusive of the inmates and their belongings; so are *dama*,⁵⁰⁴ meaning house or home, implying an

⁴⁸⁶ Rigveda, VIII. 5. 38.

⁴⁸⁷ Muir—Original Sanskrit Texts, pp. 462 ff.

⁴⁸⁸ Rigveda, I. 191. 10.

⁴⁸⁹ Ibid., IV. 45. 1.

⁴⁹⁰ Ibid., VI. 48. 18,

⁴⁹¹ Ibid., I. 85. 6 ; V. 83. 7.

⁴⁹² Ibid., VI. 47. 27.

⁴⁹³ *Grāvan*, Rigveda, I. 83. 6 ; I. 135. 7 ; *adri*, Rigveda, I. 130. 2 ; I. 135. 5.

⁴⁹⁴ Rigveda, V. 45. 7 ; IX. 11. 5.

⁴⁹⁵ Ibid., IX. 67. 8.

⁴⁹⁶ Ibid., I. 135. 6 ; IX. 103. 2, 3.

⁴⁹⁷ Ibid., I. 161. 8.

⁴⁹⁸ Ibid., IX. 103. 2.

⁴⁹⁹ Macdonell and Keith—Vedic Index, II. p. 458.

⁵⁰⁰ Rigveda, I. 122. 1 ; I. 155. 1 ; VII. 92. 1 ; X. 88. 1.

⁵⁰¹ Ibid, IV. 6. 2.

⁵⁰² Ibid, II. 75. 3.

⁵⁰³ Ibid, I. 74. 2 ; V. 10. 3 ; V. 44. 7 ; VI. 2. 8.

⁵⁰⁴ Ibid, I. 1. 8 ; I. 61. 9., I. 75. 5 ; II. 1. 2.

idea of control⁵⁰⁵ and *dhāman*,⁵⁰⁶ implying dwelling and signifying on the one hand the inmates of the house⁵⁰⁷ and on the other law⁵⁰⁸—showing the connection in the Vedic mind between the house and all conceptions of law and order. Similarly, *śarma*⁵⁰⁹ is a house and *pastyā(f)*⁵¹⁰ and *pastya(n)*⁵¹¹ occurring singly or in the compounds *pastyāvant*⁵¹² *pastyavant*⁵¹³ and *pastya-sad*⁵¹⁴ are other terms denoting a house. *Dur*,⁵¹⁵ the earlier and commoner word for door⁵¹⁶ has an implied sense of the whole house,⁵¹⁷ and *dur-ya* (door-posts),⁵¹⁸ *duryona*,⁵¹⁹ all signify the house itself. *Sthānu*⁵²⁰ and *sthūṇā*⁵²¹ are early names for pillars while smaller timber-posts were *svaru*,⁵²² *Yūpa*⁵²³ and *drupad*.⁵²⁴ This great variety of names for posts and pillars shows that they were a marked feature of a particular type of house-building. We have also references to the use of metals in the construction of houses such as *ayaḥsthūṇa* (pillar made of *ayas*).⁵²⁵ In the Rigveda a sage named *Saptagu* prayed to Indra for “a spacious home unmatched among the people.”⁵²⁶

⁵⁰⁵ Roth—St. Petersburg Dictionary, s. v. *dama*.

⁵⁰⁶ Rigveda, I. 144. 1 ; II. 3. 2 ; III. 55. 10 ; VIII. 61. 4 ; VIII. 87. 2 ; X. 31. 1.

⁵⁰⁷ Ibid., VIII. 101. 6 ; IX. 36. 14 ; X. 82. 3.

⁵⁰⁸ Ibid., IV. 55. 2 ; VI. 21. 3 ; VII. 63. 3 ; VIII. 41. 10 ; X. 48. 11.

⁵⁰⁹ Rigveda VII. 82. 1 ; I. 51. 15.

⁵¹⁰ Ibid., I. 25. 10 ; I. 40. 7 ; I. 164. 30 ; IV. 1. 11 ; VI. 49. 9 ; VII. 97. 5 ; IX. 65. 23 ; X. 46. 6.

⁵¹¹ Ibid., X. 96. 10, 11.

⁵¹² Ibid., I. 151. 2 ; II. 11. 6 ; IV. 54. 5 ; IX. 97. 18.

⁵¹³ Ibid., IV. 55. 3 ; VIII. 27. 5.

⁵¹⁴ Ibid., VI. 51. 9. Roth—St. Petersburg Dictionary, s. v. ; Pischel—Ved. Stud. Vol. II. p. 211.

⁵¹⁵ Rigveda, I. 68. 10 ; I. 113. 4 ; I. 121. 4 ; I. 188. 5.

⁵¹⁶ *Dvār* in Rigveda, I. 13. 16.

⁵¹⁷ Thus *Dur-ya* (in masculine plural) = belonging to the door or to the house : Rigveda, I. 91. 19 ; X. 40. 12.

⁵¹⁸ Ibid., IV. 1. 9, 18 ; IV. 2. 12 ; VII. 1. 11.

⁵¹⁹ Ibid., I. 174. 7 ; V. 29. 10 ; V. 32. 8.

⁵²⁰ Ibid., X. 40. 13.

⁵²¹ Ibid., I. 59. 1 ; V. 45. 2 ; V. 62. 7 ; VIII. 17. 14.

⁵²² Ibid., I. 92. 5 ; I. 162. 9 ; III. 8. 6.

⁵²³ Ibid., I. 51. 14.

⁵²⁴ Ibid., I. 24. 13 ; IV. 32. 23.

⁵²⁵ Ibid., V. 62. 7, 8.

⁵²⁶ X. 47. 8.

The word *gr̥ha* occurs in many passages of the Rigveda.⁵²⁷ According to some it denotes the house of the Vedic Aryan ; but as it is used of a special type of Śmaśāna, it may well have been a mansoleum erected over or beside the grave as described in the Śatapatha Brāhmaṇa.⁵²⁸

The *harmya*⁵²⁹ denoted the Vedic house including stables etc⁵³⁰ and was adorned with pillars which supported the roof.⁵³¹ Mitra and Varuṇa had a palace with one thousand pillars.⁵³² The sage Bharadvāja prayed to Indra for a house which should be tri-dhātu and tri-varūtha.⁵³³ According to some scholars the house prayed for was to be made of wood, brick and stone and hence called tri-dhātu. Sāyana explains tridhātu by the word tri-bhūmika, that is, three-storied or possessing three court-yards or separate apartments. The first that was in the front was probably constructed with stone to make it strong enough to stand the attacks of enemies or robbers and the second and third were made of mud and timber. The word tri-varūtha occurs again in another verse⁵³⁴ where it probably means a house possessing three apartments. We also find references to ladies' apartments⁵³⁵ halls of sacrifice with doors,⁵³⁶ cow-pens⁵³⁷ and stables for horses.⁵³⁸

⁵²⁷ II. 42. 3 ; III. 53. 6 ; IV. 49. 6 ; V. 76. 4 ; VIII. 10. 1 ; X. 18. 12 ; X. 85. 26.

⁵²⁸ The unorthodox memorial structure was round and domeshaped (parimaṇḍalā, Śatapatha Brāhmaṇa, XIII. 8. 1), 'enclosed by an indefinite number of Stones' (Ibid., XIII. 8. 2. 2). The Orthodox style is square or quadrilateral (Ibid., XIII. 8. 1. 1 ff), not separate from the earth, that is, not towering (Ibid., XIII. 8. 2. 1) and made of bricks one foot square (Ibid., XIII. 8. 4. 11). The unorthodox style was the prototype of Buddhistic Stupa architecture and the Orthodox style is represented in the temple architecture of Mādurā, Tanjore and other cities of Southern India.

⁵²⁹ Rigveda I. 166. 4 ; IX. 71. 4 ; IX. 78. 3 ; X. 43. 3 ; X. 73. 10.

⁵³⁰ Ibid., VII. 56. 16 ; cf. X. 106. 5. ⁵³¹ Ibid., IV. 5. 1.

⁵³² Sabasra-sthūna, Ibid., II. 41. 5 ; V. 62. 6 ; VII. 88. 5.

⁵³³ Ibid., VI. 46. 9.

⁵³⁴ Rigveda X. 66. 5. ⁵³⁵ Ibid., I. 167. 3.

⁵³⁶ Ibid., I. 13. 6 ; I. 188. 5 ; II. 3. 5 ; III. 4. 5 ; III. 34. 7 ; III. 51. 3 ; V. 5. 5 ; V. 11. 4 ; V. 13. 3 ; VI. 27. 2.

⁵³⁷ Ibid., I. 92. 4 ; I. 191. 4 ; V. 33. 10 ; V. 34. 5 ; V. 45. 6 ; V. 62. 2 ; VI. 10. 3 ; VI. 17. 2 ; VI. 28. 1 ; VI. 45. 24 ; VI. 62. 11 ; VI. 65. 5.

⁵³⁸ Ibid., VII. 56. 16 ; cf. X. 106. 5.

Building activities must also have developed in these times through the needs of social and corporate life as in the case of the *goṣṭhi* (clubs), the *vidatha* (royal audience-hall), the *saṁhā* and the like.⁵³⁹

We have no direct allusion to the *arts of painting and sculpture* in the hymns of the Rigveda. According to Max Muller "the religion of the Veda knows of no idols"⁵⁴⁰ though Dr. Ballensen⁵⁴¹ finds in the hymns clear references to the images of gods. Thus we read : "who for ten milch kine purchaseth from me this Indra who is mine ? When he hath slain the Vṛtras let the buyer give him back to me."⁵⁴² Now what is signified by the purchase of Indra for ten milch kine ? Was there any painted figure of Indra or carved out image of Indra on wood or stone that used to be temporarily parted with for a consideration and returned after worship ? Or, is it merely a metaphorical way, as Griffith points out, of saying that the poet-priest who had obtained the favour of Indra for his patron by sacrifice demanded a fee of ten milch kine ? We further read : "O Caster of Stone, I would not sell thee for a mighty price, not for a thousand, Thunderer ! nor ten thousand, nor a hundred, Lord of countless wealth."⁵⁴³ The word used here for price is *śulka*. The reference must, therefore, have been to an image of Indra. The authors of the Vedic Index observe "Ten cows are regarded as a possible price for an (image of) Indra to be used as a fetish (Rigveda IV. 24. 10) ; elsewhere (VIII. 1. 5) not hundred, nor a thousand nor a myriad are considered as an adequate price (*śulka*) for the purchase of Indra" In this connection it is worthy of note that the description of gods in the Rigveda is mainly anthropomorphical and it is just possible that artists sometimes painted their figures in colour or carved out images on wood or stone to represent their functions. As a matter of fact, carved images on wooden posts are mentioned in a verse which reads : "Like two slight images of girls, unrobed upon a new-

⁵³⁹ Mr. Subimal Sarkar—Some Aspects of the Earliest Social History of India, pp. 5—15.

⁵⁴⁰ Chips from a German Workshop I. p. 38.

⁵⁴¹ Journal of the German Oriental Society, XXII. p. 587 ff.

⁵⁴² Rigveda, IV. 24. 10. Griffith's Translation of the Rigveda, I. p. 427.

⁵⁴³ Rigveda, VIII. 1. 5. Griffith's Translation of the Rigveda, II. p. 103.

wrought post, so shine thy Bay Steeds in their course”⁵⁴⁴ **Caste system in relation to mobility of labour**—The question now presents itself as to the extent to which in the period of the R̥gveda the caste system had been developed and stood as a barrier against the mobility of labour. The orthodox Hindu holds that the caste system is of divine appointment and that it had existed for all time. But the sacred books themselves when they are studied historically, supply evidence both of its origin and of its growth. We are told in the Śānti Parva of the Mahābhārata that “at first there was no caste.” The distinction between the colour (varṇa) of the Aryan conquerors and that of the coloured aboriginal tribes first formed the basis of caste.⁵⁴⁵ The question is thus narrowed down to the consideration of the arguments for and against the view that among the Aryans themselves caste divisions were appearing. Messrs. Muir,⁵⁴⁶ Zimmer,⁵⁴⁷ and Weber⁵⁴⁸ have denied the existence of caste in any form in this period. Professor Max Muller says “If then with all the documents before us, we ask the question, does caste as we find in Manu and at the present day form part of the most ancient religious teaching of the Vedas? we can answer with a decided ‘no’.”⁵⁴⁹ Weber in his History of Sanskrit Literature also hold the same view and says “there are no castes as yet, the people are still one united whole, and bear but one name that of Viśas.”⁵⁵⁰ But Messrs. Geldner⁵⁵¹ and Oldenburg⁵⁵² hold the opposite view. It has been argued that the warriors of the community were the agricultural and industrial classes and the priesthood was not yet hereditary. Any person who distinguished himself for his genius or virtue or who for some reason was deemed specially receptive of divine inspiration could be a priest. Every Vedic householder was a priest unto himself so far at least as the

⁵⁴⁴ R̥gveda, IV. 32. 33. Griffith's Translation of the R̥gveda, I. p. 437.

⁵⁴⁵ R̥gveda, I. 100. 18.

⁵⁴⁶ Original Sanskrit Texts, Vol. I. pp. 239 ff.

⁵⁴⁷ Altindischen Leben, pp. 185—203.

⁵⁴⁸ Indische Studien, Vol. X. pp. 1 ff.

⁵⁴⁹ Chips from a German Workshop, Vol. II. p. 307.

⁵⁵⁰ English Translation, p. 38.

⁵⁵¹ Vedische Studien, Vol. II. p. 146.

⁵⁵² Z. D. M. G., Vol. LI. pp. 267 ff.

performance of ordinary daily religious duties was concerned viz., the lighting up of the sacred Household Fire and the pouring of libations of *habis* into it thrice a day. It was only on special occasions when any *Sattra* or big religious sacrifice had to be performed that the services of experts were requisitioned and paid for. These experts, did not, however, form a separate caste by themselves in the sense in which we understand it today, with its exclusiveness and strict elaborate rules as regards eating, drinking and association by marriage etc. For, "the word *Brāhmaṇa*, the regular name for a 'man of the first caste'" says Professor Macdonell "is still rare in the *Rigveda*, occurring only eight times, while *Brahman*, which simply means sage or officiating priest is found forty-six times"⁵⁵³ Indeed the growth of the caste system was the result of the complication of life due to the further penetration of the Aryans from the Punjab into the East. To resist the sudden incursion or to crush the attempts at rebellion of the aborigines, the petty tribal princes formed the nucleus of a standing armed force while the industrial and agricultural population relying on the protection of the warrior class abandoned the use of arms. Together with the growth in the size of kingdoms and the increasing complexity of civilisation, the simple ritual of an earlier period when the king himself can sacrifice for his people, grew to an extent which rendered this impracticable, while at the same time, the idea grew up that upon the faithful and exact performance of the rites depended the result of battle. The result was the growth of a priesthood, a warrior class and of a third the artisan and the cultivator sharply distinguished from one another and strictly hereditary. But the later origin of this development is proved by the fact that it took place not in the Punjab, the home of the *Rigveda* but in the Middle country whose geographical isolation favoured the evolution of this peculiar social system. A student of the *Rigveda* without knowledge of historical facts might reasonably presume that the Indus basin where the Aryans first settled in India would be the Holy land of Hinduism. The poets never tire of singing praises of the mighty Indus and its tributaries.⁵⁵⁴ The combined testimony of the *jātakas* and the Greek

⁵⁵³ *History of Sanskrit Literature*, pp. 161—62.

⁵⁵⁴ Cf. *Nadi-stuti* in *Rigveda*, X. 75.

authors proves that in the fourth century B. C. Taxila in the N. W. Punjab was still a centre of Vedic learning. But the strange fact is that orthodox Hindus regard the whole Punjab between the Indus and the Satlej as impure land unfit for the residence of strict votaries of Dharma. The reason apparently is that the N. W. territories continued to be overrun by successive swarms of foreigners from central Asia who disregarded the Brahmins with the result that the original inhabitants of the Punjab intermixed with these barbarian conquerors, imbibed their outlandish practices and did not follow the strict caste system.

While there is much truth in this view, it must be admitted that it exaggerated the freedom of the Rigveda from caste. For the term *Br hmaṇa* 'son of a *Brahmā*' which occurs no less than eight times in the Rigveda seems to show that the priesthood was normally hereditary. We are told that there is a case of a king exercising the functions of a domestic priest and sacrificing himself for his people but the alleged case, that of Devapi rests only on the assertion of a commentator of a hymn⁵⁵⁵ in which Devapi appears that he was originally a king. Even, however, if this was the case, it must be remembered that even after the complete establishment of the caste system it was still the privilege of kings to exercise some priestly functions such as that of the study of the nature of the Absolute, a practice ascribed to them in the Upaniṣads. The arguments regarding the warrior class rest on a misunderstanding. Even in the latest Vedic epoch, we have no ground to suppose that there was a special class which reserved its energies for war alone and that the industrial population and the agriculturists allowed the fate of their tribe to be decided by contests between warrior-bands but the Rigveda certainly knows of a ruling class, and the Vedic Kingship was normally hereditary, so that we may well believe that even then there existed, though perhaps in embryo, a class of nobles who are aptly named in the term of the *Puruṣasukta* hymn,⁵⁵⁶ *Rājanyas*, as being 'men of kingly family'.

But this *Puruṣasukta* hymn though commonly supposed to be "the only passage in the Rigveda which enumerates the four castes" has nothing to

⁵⁵⁵ Rigveda, X. 98.

⁵⁵⁶ Rigveda, X. 90.

do with caste. The hymn has for its subject a cosmogony, a theory of creation. It tells of the creation of all things from the sacrifice of a fabulous monster-man or Puruṣa, his severed limbs giving birth to the world. As pointed out by Mr. Andrew Lang⁵⁵⁷ the same primitive mode of accounting for creation is found in the Norse legend, where the earth, the seas, water, mountains, clouds and firmament are formed by dividing up the body of Giant Ymir. So also in the Chaldæan story, a monster-woman is divided in twain by Bel to form the heavens and earth. The same story runs through the myths of the Iroquois in North America as well as through those of Egypt and Greece. The Vedic story which runs close to those of other folk differs from them according to some scholars in this that it goes on to add that from Puruṣa also sprang the four classes of people. But Mr. V. A. Smith rightly observes "Both the Brahmin and fire come from Puruṣa's mouth, just as the servile man or Śūdra and earth both proceed from his feet. No suggestion of the existence of caste-groups is made. Mankind is simply and roughly classified under four heads according to occupation, the more honourable profession being naturally assigned to the more honourable symbolical origin. It is absurd to treat the symbolical language of the poem as a narrative of supposed facts."⁵⁵⁸ "This is an attempt" says. Mr. R. W. Frazer, "to force an antiquity for a social system by connecting it with an undeniably ancient legend."⁵⁵⁹

Thus though there were kings and sacrificial priests though there were warriors and the great body of the people, cultivators, artisans and dealers in merchandise, the people were not tied down to the rigidity of a caste system whence hereditary occupation was allotted to the members. Viśvāmitra who belonged to the rajanya class acted as a priest.⁵⁶⁰ Poet-priests, on the other hand, prayed to the gods for the birth of sons who would be able to defeat their enemies in battles.⁵⁶¹ Indeed the poet-priest Mudgala did not hesitate to take up arms against robbers who had stolen

⁵⁵⁷ Myth, Ritual and Religion, Vol. I. p. 243.

⁵⁵⁸ Oxford History of India, p. 36.

⁵⁵⁹ Literary History of India, p. 25.

⁵⁶⁰ Rīgveda III. 53. 9.

⁵⁶¹ Ibid., V. 23. 12 ; VI. 31. 1.

his cows and his valiant wife drove the car for him and came to his rescue when the situation had become somewhat embarrassing for him.⁵⁶² The Rigveda also refers to Śūdra kings. One poet-priest tells us that his father was a physician while his mother ground grain between mill-stones.⁵⁶³ The descendants of the poet-priest Bhṛgu were experts in fashioning chariots.⁵⁶⁴ Gamblers are advised without any reference to their class to take to agriculture and pastoral pursuits,⁵⁶⁵ proving thereby that in the economy of this period there was much mobility of labour. The existence of this freedom of movement from one occupation to another led to the dignity of labour. As Tvastṛ was the god who forged the thunderbolt for Indra, no odium was attached to the work of the smith who manufactured weapons for men. The worker in wood had clearly the place of honour and we find the priests themselves preparing sacrificial posts and altars.

Labour and Occupations—We have just seen that the Rigveda shows germs of a social division arising out of the adoption of different occupations by different sections of the community. The following verse describes some of the professions very beautifully :—

“Men’s tastes and trades are multifarious,
And so their ends and aims are various.
The smith seeks something cracked to mend,
The leech would fain have sick to tend.
The priest desires a devotee,
From whom he may extract his fee.
Each craftsman makes and vends his ware,
And hopes the rich man’s gold to share.”⁵⁶⁶

Besides the priestly and ruling classes we find the following functional groups :—(1) Kīṇāśa,⁵⁶⁷ the ploughman (2) Dhānyakṛt,⁵⁶⁸ the husker and

⁵⁶² Ibid., X. 102.

⁵⁶³ Ibid., IX. 112. 3.

⁵⁶⁴ Ibid., X. 31. 14.

⁵⁶⁵ Ibid., X. 34. 13.

⁵⁶⁶ Rigveda IX. 112. 1—2.

⁵⁶⁷ Ibid., IV. 57. 8.

⁵⁶⁸ Ibid., X. 94. 13.

winnower of corn (3) Gopā,⁵⁶⁹ herdsman (4) Vāya,⁵⁷⁰ the weaver of sundry piece goods corresponding to the modern Jolā in Bengal producing napkins, covers etc. (5) Vāso-vāya,⁵⁷¹ the weaver of the standard vāsas or wearing cloth corresponding to the modern tānti in Bengal (6) Dh mātr,⁵⁷² one who smelts (dh mā) the (metal) ore (with bellows of bird's feathers⁵⁷³) (7) Karmāra,⁵⁷⁴ the smith (8) Takṣan⁵⁷⁵ or tvastṛ⁵⁷⁶ the carpenter (9) Rathakāra who made carts⁵⁷⁷ and chariots (10) Carmamna⁵⁷⁸ the tanner and leather—worker (11) potter who made earthen vessels of all sorts⁵⁷⁹ (12) vaptā⁵⁸⁰ the barber who is clearly mentioned as shaving beards (13) Bhiṣak,⁵⁸¹ the physician who treated patients for a fee. A poet-priest says "I will give to thee, O physician, a horse, a cow, a garment, yea, even myself."⁵⁸² The healing properties of herbs and plants were known to them from which they prepared medicines as is apparent from a hymn⁵⁸³ devoted wholly to the praise of medicinal plants and the physicians who deal with them. The physicians restored the aged and decrepit Cyavana to youth and rendered him desirable to his wife and made him the husband of maidens.⁵⁸⁴ Rijrāśva had his eyesight restored,⁵⁸⁵ while Parāvṛj was cured of blindness and hameness.⁵⁸⁶ Ghoṣā was cured of her skin-disease⁵⁸⁷ while Viśpalā whose-leg was cutt off in a

⁵⁶⁹ Ibid., I. 164. 21 ; II. 23. 6 ; III. 10. 2 ; V. 12. 4. etc.

⁵⁷⁰ Macdonell and Keith—Vedic Index, s. v. Vāya.

⁵⁷¹ Rigveda, X. 26. 6.

⁵⁷² Ibid., V. 9. 5 ; VII. 2. 4.

⁵⁷³ Ibid., IX. 112. 2.

⁵⁷⁴ Ibid., IX. 112. 2 ; X. 72. 2.

⁵⁷⁵ Ibid., IX. 112. 1.

⁵⁷⁶ Ibid., X. 119. 5.

⁵⁷⁷ Ibid., X. 146. 3.

⁵⁷⁸ Ibid., VIII. 5. 38.

⁵⁷⁹ Ibid., VII. 104. 21 ; X. 89. 7.

⁵⁸⁰ Ibid., X. 142. 4.

⁵⁸¹ Ibid., IX. 112. 1, 3.

⁵⁸² Ibid., X. 97. 4.

⁵⁸³ Ibid., X. 97.

⁵⁸⁴ Ibid., I. 116. 10.

⁵⁸⁵ Ibid., I. 116. 16.

⁵⁸⁶ Ibid., I. 116. 8.

⁵⁸⁷ Vedic Mythology, 21.

battle was given an iron one instead. (14) *Vañij*,⁵⁸⁸ a merchant (15) *Nṛtu*, a dancing girl. It has been contended that the word *nṛtu* does not imply dancing girls as a professional class in the community ; it might be that the unmarried girls or the ladies of the harem danced on special occasions as the Roman matrons danced and sang publicly on *Floralia* or *Feast of Fool* days and the females of the aristocratic families in Java and *Vali* still do. But the passage in question reads :

“*Nṛturivāpornute bakṣa usreva vajraham*”⁵⁸⁹

“Like a dancing girl she bares her bosom as a cow yields her udder (at the time of milching)” —such shameless dancing with bare breasts for attraction cannot be ascribed to decent and respectable women who always appeared before the public well—covered.⁵⁹⁰

Mr. Baden Powell in his *Indian Village Community* assumes that the Aryans had their lands cultivated by the conquered aborigenes ; but the *Rigveda* unquestionably describes a society which is not dependent on such servile labour and in which cultivators, artisans and handicraftsmen are in no way regarded as inferior members of the community. We hear, no doubt, of slaves⁵⁹¹ and of gifts of slaves⁵⁹² but we have no evidence to show that they were largely employed or that slavery became the basis of husbandry. The ordinary tasks of life appears to have been carried out by the freemen of the tribe.

Domestic Labour—“*Jāyedaṣṭam*”⁵⁹³ (the wife is the home) exclaimed *Viśvāmitra* in his ecstatic vision of the true source of domestic felicity. Hence many of the household duties were entrusted to the ladies of the house. Philological evidence shows that it was the *mātā* (mother) who distributed the food, while the *duhitā* (daughter) used to milch the cow. We find women weaving,⁵⁹⁴ drawing water from wells in *Kumbhas*⁵⁹⁵ and preparing

⁵⁸⁸ *Rigveda*, I. 112. 11 ; V. 45. 6.

⁵⁸⁹ *Rigveda*, I. 92. 4.

⁵⁹⁰ *Ibid.*, VIII. 17. 7 ; VIII. 26. 13.

⁵⁹¹ *Ibid.*, VII. 86. 7.

⁵⁹² *Ibid.*, VIII. 19. 13 ; VIII. *Vāṅkhilya Hymn* No. 8. 3.

⁵⁹³ *Rigveda* III. 3. 4.

⁵⁹⁴ *Ibid.*, X. 71. 9 ; cf. II. 3. 6 ; II. 38. 4 ; V. 47. 6.

⁵⁹⁵ *Ibid.*, I. 191. 14.

the Soma drink.⁵⁹⁶ We find them churning milk and curds and preparing butter out of them.⁵⁹⁷ Husking, winnowing and many other similar duties were entrusted to women⁵⁹⁸ though in the age of the Atharvaveda⁵⁹⁹ slave-girls were employed for the purpose in the comparatively well-to-do families. The tending of cattle while at home was part of the house-wife's duties as would appear from the marriage-hymn of the Rigveda⁶⁰⁰ where she is asked to be gentle to the cattle and to bring blessing to her husband's bipeds and quadrupeds.

Domestic and Foreign Trade—We have seen that Rigvedic society was sufficiently settled to admit of a prosperous agriculture and of a remarkable development in arts and crafts. "The Sindhu was rich in horses, rich in chariots, rich in clothes, rich in gold ornaments, well-made, rich in food, rich in wool, ever fresh, abounding in Silami plants (said to be used in cordage) and the auspicious river wears honey-growing flowers"⁶⁰¹ The trade in the products of agriculture and industry was carried on by the Vāṇij or Vāṇij denoting a merchant. In the Rigveda we find the use of the verb kri, to purchase⁶⁰² and of śulka, price.⁶⁰³ We have also a passage⁶⁰⁴ which suggests if not a contract for sale, at least haggling over prices: "A man has realised a small price for an article of great value, and again coming (to the buyer he says) this has not been sold; I require the full price; but he does not recover a small price by a large (equivalent): whether helpless or clever, they adhere to their bargain" According to this translation made by Wilson contracts seemed to have been made at the time of sale and purchase and the terms agreed upon could not be altered afterwards. Griffith translates the passage thus:

"He bid a small price for a thing of value; I
was content, returning still purchased.

⁵⁹⁶ Ibid., I. 28. 3; IX. 67. 8.

⁵⁹⁷ Ibid., I. 28. 4.

⁵⁹⁸ Upalaṅgī in the Rigveda.

⁵⁹⁹ XII. 3. 13.

⁶⁰⁰ X. 85. 44.

⁶⁰¹ Rigveda, X. 75. 8.

⁶⁰² Ibid., IV. 24. 10.

⁶⁰³ Ibid., VIII. 1. 5.

⁶⁰⁴ Ibid., IV. 24. 9.

He heightened not his insufficient offer, Simple
and clever both milk out the udder"

and remarks "both the simple or needy buyer and the shrewd seller make as much as they can out of the bargain."⁶⁰⁵ Thus prices seemed to have been settled finally only after much higgling and haggling.

For the conduct of this trade there were the roads and travellers' rest-houses even in this age. The recent excavations in Sind and the Punjab prove the existence of S. W. ports in the pre-Aryan India of the third millenium B. C. and the cross-country roads feeding them may have been much older than the Aryan settlement. We have already referred to the prayers in the Rigveda for protection on a journey offered to Pusan who was the deity presiding over roads and paths.⁶⁰⁶ Agni and the sages like the Roman pontifices are called pathi-kṛt, the path-makers.⁶⁰⁷ Travelling seems to have been quite common even in those early times for we read "Two with one Dame ride on with winged steeds and journey forth like travellers on their way."⁶⁰⁸ We also read of prapathas, rest-houses for travellers⁶⁰⁹ and the epithet prapathin⁶¹⁰ given to a Yadava prince shows that princes of those times constructed rest-houses for the benefit of the travellers. The word setu occurs in the Rigveda⁶¹¹ but its precise sense does not come out clearly. It has been held that a causeway of an ordinary type, merely a raised bank for crossing inundated land is meant, and that its use is probably metaphorical; but a metaphorical use of a term can hardly come into existence unless there has been previous simple use of it.

The articles of trade were carried from one part of the country to the other in waggons drawn by bullocks⁶¹² and horses,⁶¹³ and probably also by

⁶⁰⁵ Griffith's Rigveda, Vol. I. p. 426 fn.

⁶⁰⁶ Rigveda I. 42. 1; VI. 49. 8; VI. 51. 13; VI. 53. 1.

⁶⁰⁷ Macdonell and Keith—Vedic Index, I. pp. 489—90.

⁶⁰⁸ Rigveda, VIII. 29. 8.

⁶⁰⁹ Ibid., X. 17. 4, 6; X. 63. 16.

⁶¹⁰ Ibid., VIII. 1. 13.

⁶¹¹ X. 41. 2.

⁶¹² Rigveda II. 2. 1.

⁶¹³ Ibid., X. 101. 7.

buffaloes⁶¹⁴ and asses.⁶¹⁵ Camels⁶¹⁶ and dogs⁶¹⁷ were also used as beasts of burden. A poet-priest prays for the gift of one hundred asses⁶¹⁸ which were required not certainly to draw his chariots, for, he could not have possessed many, but simply to carry his burden. It may seem strange that the dog was used as a beast of burden, but the reference in the *Rigveda* is quite clear.⁶¹⁹ The caravans consisting of the merchants, their retainers and waggons and the above-mentioned beasts of burden moved on from place to place, selling the commodities they carried and purchasing such articles as would be wanted elsewhere. They were thus the forerunners of the *svārtha-vāhas* of the early Buddhist literature and the *Jātakas*.

Scholars are, however, divided in their opinion as to whether this trade was carried on across the seas to foreign lands. Macdonell, Ragozin and Hopkins hold that the Aryans of this age were unacquainted with the sea. Mr. Keith observes "The Vedic Indian seems to have been very little of a navigator."⁶²⁰ Mr. Frazer remarks "It is doubtful if the early Aryans ever knew the ocean. The seas of water they mention may have referred to the wide-stretching Indus."⁶²¹ Mr. Macdonell also identifies the western Samudra with the Indus. But then what about the *Pūrva* or Eastern Samudra which also is mentioned. Further, the *Rigveda* speaks of the four Samudras.⁶²² We shall now adduce evidences from the *Rigveda* which in Bühler's opinion⁶²³ "prove the early existence of the complete navigation of the Indian Ocean and of trading voyages by Indians." One hymn⁶²⁴ represents Varuṇa having a full knowledge of the ocean-routes along which vessels sail. Another hymn⁶²⁵ speaks of merchants who

⁶¹⁴ Ibid., X. 102. 7.

⁶¹⁵ Ibid., I. 34. 9 ; I. 116. 2 ; I. 162. 2 ; VIII. 74. 7 ; cf. IV. 36. 1 ; I. 117. 16.

⁶¹⁶ Ibid., I. 138. 2.

⁶¹⁷ Ibid., VIII. 46. 28.

⁶¹⁸ Ibid., VIII. 56. 3.

⁶¹⁹ *Sunesitam* in *Rigveda* VIII. 46. 28.

⁶²⁰ Rapson—*Cambridge History of India*, Vol. I., p. 101.

⁶²¹ *Literary History of India*, p. 29.

⁶²² *Rigveda*, IX. 33. 6 ; X. 47. 2.

⁶²³ *Origin of the Brahmi Alphabet*, p. 84.

⁶²⁴ *Rigveda*, I. 25. 7.

⁶²⁵ Ibid., I. 56. 2.

frequent every part of the sea in pursuit of gain. Another hymn⁶²⁶ mentions merchants sending out ships to foreign countries under the influence of greed. Another hymn⁶²⁷ refers to a prayer to the sea by people desirous of wealth, before undertaking a voyage.

Mr. Keith observes "The use of boats or probably dug-outs for crossing rivers was known but the simplicity of their construction is adequately shown by the fact that the paddle alone was used for their propulsion. There is no mention of rudder or anchor, mast or sails, a fact which incidentally negatives the theory that the Vedic Aryans took part in ocean-shipping."⁶²⁸ But we can point out that the Rigveda has no prohibition against sea-voyages; on the contrary it has distinct allusions to them. All the Vedic ships were not simple in their construction as there is a reference to a ship with one hundred oars.⁶²⁹ Some of them were furnished with "wings" *i.e.*, sails.⁶³⁰ Moreover, the people sailed on the seas, not only for trade but also for pleasure trips and warlike purposes. They must have resorted to coastal voyages only, though there is mention of a naval expedition⁶³¹ sent by Tugra under his son Bhujyu "in the ocean which giveth no support or hold or station."⁶³² There is also mention of islands situated in the midst of the sea⁶³³ Vasiṣṭha thus describes his pleasure trip in Rigveda VII. 88. 3 :—

"When Varuṇa and I embark together and urge
our boat into the midst of ocean,

We, when we ride o'er ridges of the⁶³⁴,

waters, will swing within that swing and there be happy."

Referring to these passages even Messrs. Macdonell and Keith⁶³⁵ observe "It is not easy to refuse to recognise here the existence of longer vessels

⁶²⁶ Ibid., I. 48. 3.

⁶²⁷ Ibid., IV. 55. 6.

⁶²⁸ Rapson—Cambridge History of India, Vol. I. p. 101.

⁶²⁹ Rigveda, I. 116. 5.

⁶³⁰ Ibid., X. 143. 5.

⁶³¹ Ibid., I. 116. 3—5.

⁶³² Griffith's Rigveda I. p. 154.

⁶³³ Rigveda I. 169. 3; X. 10. 1.

⁶³⁴ Griffith's Rigveda II. p. 84.

⁶³⁵ Vedic Index, I. p. 469.

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with many oars and for sea-voyages." We further read "As merchants desirous of wealth surround the Sea, so do the priests surround Indra."⁶³⁶ Here the use of the theme by way of a simile seems to show that sea-voyages by merchants were not a rare occurrence but fairly well-known to the public at large.

From the accounts of the earliest historiographers we learn that Navigation made its first efforts on the Mediterranean Sea and on the Perisan Gulf. These seas lay open the continents of Asia Europe and Africa and washing the shores of the most fertile and the most early civilised countries, seemed to have been destined by Nature to facilitate their communication with one another. We find accordingly that the first voyages of the Egyptians and the Phœnicians were made in the Mediterranean and Red Seas. Their trade was however, not long confined to the countries bordering on these seas. By acquiring early possession of the ports of the Arabian Sea, they extended the sphere of their commerce and are represented to have opened up communications by sea with India. Dr. Day remarks in his History Commerce "The beginnings of these sea-voyages are lost in the obscurity of the past. We know that they were highly developed by 1500 B. C., when Sidon was the leading city and that they did not cease to extend when the primacy of Phœnician cities passed to Tyre."

It is a well-known fact that the Phœnician trade had three branches viz., Arabian-Indian, Egyptian and the Assyrio-Babylonian. We are here chiefly concerned with the first. According to some scholars the Pani of the Rigveda is Latin Pœni = Phœnicians, a trading people. They were a clan of Asuras whose chiefs Vitra and Vala were defeated in a fight with the Devas and were ousted from the north. They, therefore, finally settled in the Levant. Their new colony Pani-deśa, Latin Finidis = Phœnicia. The Phœnicians are described by the Classical writers of Europe as faithless, treacherous and deceitful—a description quite in unision with the Vedic account. Thus they are described in the Rigveda as "riteless and godless"⁶³⁷ "traffickers,"⁶³⁸ "extremely greedy like wolf,"⁶³⁹ foolish,

⁶³⁶ Rigveda, I. 56. 2.

⁶³⁷ Ibid., I. 33. 3.

⁶³⁸ Rigveda, I. 33. 5.

⁶³⁹ Ibid., VI. 51. 14.

faithless, rude speaking niggards without belief, sacrifice or worship.⁶⁴⁰ These Phœnician traders would come to India by the Red Sea route and also by the caravan route from the shores of the Persian Gulf to the Mediterranean coast of Syria. Several harbours of the Arabian Sea were seized by the Phœnicians from the Idumeans. But the distance of Tyre from these ports being very great they afterwards occupied the nearest Mediterranean port called Rhinocolura. Thither were taken overland all the articles to be reshipped to Tyre.⁶⁴¹ Dr. Royle⁶⁴² says "Long before the Persians had made themselves masters of Babylon (531 B. C.) the Phœnicians had established themselves for pearl-fishery and the Indian trade on the isles of Tylos and Aradus, the modern Bahrein islands in the Persian Gulf." The 27th chapter of the Ezekiel gives a list of the articles of Phœnician commerce brought from various countries. Among these "ivory and ebony could only have been procured in Dedan from India, for there were no elephants in Arabia."⁶⁴³ According to Classical writers India was throughout famous for ivory and ebony.⁶⁴⁴

The fortunes of the Phœnicians soon roused in the neighbouring Jews a spirit of emulation. Under David and Solomon they were great friends of the Phœnicians under Hiram (930—917 B. C.) and this close friendship produced their combined commercial enterprise. This Jewish trade with India is proved by several allusions in the Bible itself. Thus we are told that Solomon founded a sea-port at Ezion-Geber in 992 B. C.⁶⁴⁵ From Ezion-Geber the ships of Solomon sailed under the guidance of the mariners of Hiram for distant lands.⁶⁴⁶ According to Professor Ball⁶⁴⁷ some of the stones in the

⁶⁴⁰ Ibid., VII. 6. 3. Cf. niggards in Rigveda, X. 60. 6.

⁶⁴¹ Robertson—Disquisition on Ancient India, 1792. pp. 7—8.

⁶⁴² Essay on the Aequity of Hindu Medicine, p. 122.

⁶⁴³ Historians' History of the World, Vol. II. pp. 336—37.

⁶⁴⁴ Strabo XV. 37; Theophrastus quoted by McCrindle in his *India As Described By Classical Authors*, p. 460. Virgil, *Georgics* I. 57; "India Sends ivory" II. 116—17. Horace, *Odes*, "India alone produces black ebony, I. 31. The author of the *Periplus of the Erythrean Sea* also mentions logs of ebony being exported from Berygaza (Schoff's translation, p. 36.)

⁶⁴⁵ Book of Kings, IX. 26.

⁶⁴⁶ Ibid., IX. 27.

⁶⁴⁷ "A Geologist's Contribution to the History of Ancient India" in the *Indian Antiquary* for August, 1884.

breast-plate of the high-priest in the Mosaic period (1491 B. C.—1450 B. C.) may have come from the far East and India was famous for precious stones. In the days of Solomon (1015 B. C.) there could be supplied from India alone ivory, garments, armour, spices and peacocks. The evidence of Dravidian words⁶⁴⁸ in the Hebrew text of the Book of the Kings and Chronicles of the Old Testament shows that Indians, specially those of the South carried on their commercial relations with the Hebrew people and the words concerned formed the chief articles of trade between them. Thus the Hebrew word for peacock in the Book of kings in Tuki and in Chronicles also is Tuki, while the old poetic Tamil Malayalam word for peacock is Tokei.⁶⁴⁹ Again Hebrew ahalim or apaloth which means fragrant wood and is otherwise known as aloes in the Proverbs⁶⁵⁰ is derived from the Tamil Malayalam form of the word aghil. Similarly, almug = Tamil Valgu.⁶⁵¹ From these evidences we find that Rev. T. Foulkes is right when he says "The fact is now scarcely to be doubted that the rich oriental merchandise of the days of king Hiram and king Solomon had its starting place in the sea ports of the Deccan."⁶⁵² Dr. Caldwell has come to the same conclusion and says "It seems probable that Aryan merchants from the mouth of the Indus must have accompanied the Phœnicians and Solomon's servants in their voyages down the Malabar coast towards Ophir (wherever Ophir may have been) or at least have taken part in the trade."⁶⁵³ The Jewish trade with India lasted a little over a century, for, when the fleet of Jehoshaphat, fifth in descent from Solomon which had started on a voyage to Tarshish, was destroyed, the Jewish commercial spirit cooled down.

We have seen how commerce between Egypt and India began from a very remote antiquity. "The labours of Von Bohlén,⁶⁵⁴ confirming those of Heeren and in their turn confirmed by those of Lassen⁶⁵⁵ have estab-

⁶⁴⁸ Caldwell—A Comparative Grammar of the Dravidian Languages.

⁶⁴⁹ The Bavaru Jātaka also refers to peacocks as Indian exports to Babylon.

⁶⁵⁰ VII. 17.

⁶⁵¹ Cf. Hebrew koph, meaning ape = Sanskrit kapi.

⁶⁵² Indian Antiquary Vol. VIII.

⁶⁵³ Caldwell—A Comparative Grammar of the Dravidian Languages, p. 122.

⁶⁵⁴ Das Alte Indien Vol. I. p. 42.

⁶⁵⁵ Ind. Alt., Vol. II. p. 580.

lished the existence of a maritime commerce between India and Arabia from the very earliest period of humanity."⁶⁵⁶ Professor Max Duncker⁶⁵⁷ says "Trade existed between the Indians and the Sabœns on the coast of South Arabia before the tenth century B. C." The bas-reliefs of the temple of Deir-el-Bahari at Thebes in Egypt which represents the conquest of the land of Pun under Hatasu contain a picture in which is described the booty which the Pharoah is carrying to Egypt. And in this booty, according to Leormant, "appear a great many Indian animals and products not indigenous to Yemen — elephant's teeth, gold, precious stones, sandalwood and monkeys."⁶⁵⁸

But the question of the navigation of the Persian Gulf is still shrouded in mystery as well as that of the Alpha and Omega of all early communications between India and the land of Sumer and Akkad. It is inconceivable that the earliest civilisation of Chaldœ had not engaged in navigation on the "sea of the East." Though no direct evidences regarding this is forthcoming, still we may point out that the great prosperity of Elam and its sturdy resistance first to Chaldœ and then to Assyria may be partly explained by the wealth she acquired in trade with the countries on its eastern frontier ; for, we know that she had a fleet manned with Phœnician crew at the mouth of the Tigris and the Euphrates.

Dr. Sayce in his Hibbert Lectures for 1887 on the origin and growth of religion among the Babylonians have proved the existence of commerce between India and Babylon as early as 3000 B. C. Rassam has discovered Indian cedar in the palace of Nebuchadnezzar and Indian teak in the temple of the moon-god at Ur refounded by Nebonidus and he is supported by Hewitt who says that this wood must have been sent by sea from some port on the Malabar coast, for, it is only there that teak grew near enough to the sea, to be exported with profit in those early days⁶⁵⁹ Dr. Sayce points to the use of the word Sindhu for muslin in an old Babylonian list

⁶⁵⁶ Hist. Anc. del Orient, Eng. edition, II. pp. 299—301, Quoted in Indian Antiquary, Vol. XIII. p. 228.

⁶⁵⁷ History of Antiquity, Vol. IV. p. 156.

⁶⁵⁸ Hist. Anc. del Orient, Eng. edition, II. p. 299.

⁶⁵⁹ L. R. A. S., 1888, p. 337.

of clothes as the clearest proof "that there was trade between the Babylonians and the people who spoke an Aryan dialect and lived in the country watered by the Indus." And if in the Persian time in the fuller light of history the Aramic script wandered to India, such an event may equally have happened in an earlier millenia. The earliest Indian weights and measures⁶⁶⁰ may be traced to Babylonian origin. Further, the division of the sky into twenty-four Nakṣatras and the naming of seven days in the week after the Sun, Moon and five other planets may be traced to Babylonian origin. But as these are mentioned in later astronomical works, they are thought to be borrowed directly from Alexandria.⁶⁶¹ Mr. S. Kṛiṣṇa Swāmī Iyenger, however, supports the Babylonian origin.⁶⁶² The discovery of the records of the settlement of some branches of the Aryan race in Syria and Sumer worshipping some of the oldest gods of the Vedic pantheon,⁶⁶³ the recurrence of the Babylonian legend of the Flood among the Indians — all point to the existence of an intercourse between India and the land of Sumer and Akkad.⁶⁶⁴

This foreign trade could be carried along the three routes suggested by M. D. Anville. The first climbs up the precipitous and zigzag passes of the Zagros range which the Greeks called the Ladders into the treeless regions of Persia. The second traverses the mountains of Armenia to the Caspian Sea and Oxus and descends into Indus by the passes of the Hindukush. Lastly, there is the sea. Of these, the overland routes were not impracticable; in fact, the desert steppes of Asia formed the merchantile ocean of the ancients — the companies of camels their fleet. But the commerce was from hand to hand, from tribe to tribe, fitful and uncertain and never possessed any importance. Similarly, the normal trade-route from the Persian Gulf to India could never have been along the inhospitable

⁶⁶⁰ Mānā hiranya of Rīgveda VIII. 72. 8.

⁶⁶¹ Rawlinson—India and the Western World, p. 15.

⁶⁶² Beginnings of South Indian History, pp. 327, 329.

⁶⁶³ Vide the accounts of the Mitanni and of the Kassites in Hall's Ancient History of the Near East, pp. 201—30.

⁶⁶⁴ Recall in this connection the affinity between the Indus civilisation and the civilisation of the Valleys of the Tigris and the Euphrates brought to light by the recent excavations at Mohenjo Daro and Harappa.

deserts of Gedrosia. Doubtless then more than one adventurous vessel reached India by hugging the shores. But the exploring expeditions despatched in later times by Darius (512 B. C.) from the mouth of the Indus under Skylax of Karayandra and two centuries later by Alexander the Great under Nearchos show the difficulties and dangers of this route, the time it occupied and the ignorance of the pilots. The author of the *Periplus*, it is true, says that small ships made formerly voyages to India, coasting along the shores until Hippalus first ventured to cross the Ocean by observing the monsoon.⁶⁶⁵ But we know from other sources that the monsoon was known from the earliest times to all who sailed along the Arabian and African coasts ; and direct sea-voyages were attempted only at the commencement of the monsoon.⁶⁶⁶ The route for the direct sea-trade ran down the Persian and Arabian coasts to Aden, up the Red Sea to Suez, and from Suez to Egypt on the one hand and Tyre and Sidon on the other. Balkh, Aden and Palmyra were the chief halting stations and emporia of this trade.

Now was there any *combination between merchants* in this period ? The Vedic expression *pani*⁶⁶⁷ has been differently interpreted by different scholars.⁶⁶⁸ The St. Petersburg Dictionary derives it from *pan*, to barter and explains it as merchant. Zimmer⁶⁶⁹ and Ludwig⁶⁷⁰ also takes it in the sense of a merchant. Now the gods are asked to attack the *panis* who are referred to as being defeated with slaughter.⁶⁷¹ Ludwig thinks that these references to fights with *Panis* are to be explained by their having been non-Aryan traders who went in caravans as in Arabia and North Africa, prepared to fight, if need be, to protect their goods against attacks which the Aryans would naturally deem quite justified. If we accept this

⁶⁶⁵ The *Periplus of the Erythrean Sea* (Schoff's Eng. Trans.) p. 45.

⁶⁶⁶ Monsoon - Arabic *Mauzim*.

⁶⁶⁷ *Rigveda* I. 32. 11 ; I. 83. 4 ; I. 93. 4 ; I. 151. 9 ; II. 24. 6 ; IV. 58. 4 ; VI. 13. 3 ; VI. 20. 4 ; VI. 33. 2 ; VI. 39. 2 ; VI. 44. 22 ; VI. 45. 31 ; VI. 51. 14 ; VII. 9. 2 ; IX. 111. 2 ; X. 108. 2 ; X. 108. 4 ; X. 108. 6 ; X. 108. 10 ; X. 108. 11.

⁶⁶⁸ Macdonell and Keith—*Vedic Index*, I. p. 471.

⁶⁶⁹ *Alt Leben*, p. 257.

⁶⁷⁰ *Der Rig Veda*, III. 213—15.

⁶⁷¹ Macdonell and Keith—*Vedic Index*, I. 471.

meaning, we presume a corporation of merchants strong enough to defy their opponents and carry on fight against them.

Again in the Rigveda⁶⁷² the army of the Maruts is said to be divided into Ganas and Vrātas, the two words always meaning guilds or corporate unions in later Sanskrit. Further, in connection with dice-play we hear of leaders of Ganas and Vrātas.⁶⁷³ But our information about these corporate unions is so scanty that we know nothing about their nature, organisation and methods of work.

Methods and media of Exchange—The great volume of trade would necessarily presuppose the existence of an excellent system of exchange. But the general view held was that “in the Vedic Age all exchange was by barter.”⁶⁷⁴ But we have seen that by the time of the Rigveda the cow formed a standard or unit of value. Thus there is a hymn⁶⁷⁵ where Indra, that is, his image is offered as a fetish for ten cows and another⁶⁷⁶ where Indra is considered to be so valuable that not a hundred, a thousand or even a myriad of cows is thought to be a proper price. Besides cattle as a standard of exchange we find references to Niṣka, a word which in later Sanskrit means a gold coin. In one hymn⁶⁷⁷ a poet-priest praises the munificence of his patron-king for giving him as reward for his priestly services a hundred steeds and a hundred niṣkas. Now what does the word niṣka mean here? No doubt we have passages in the Rigveda which certainly point to the use of niṣka as an ornament. Thus in one passage⁶⁷⁸ we are told of sacrificers wearing niṣkas on their necks (niṣkagrivo). In another⁶⁷⁹ the god Rūdra is described as wearing niṣkas. In another⁶⁸⁰ goddess Uṣas is invoked to take away the evils of bad dreams from those who wear niṣkas. But in Rigveda I. 126. 2 where the poet-priest mentions a gift of 100 niṣkas, the meaning necklace would hardly be appropriate; for, a man cannot require a hundred necklaces to adorn himself. In regard

⁶⁷² V. 53. 1.

⁶⁷⁴ Mrs. Rhys Davids in J. R. E. S., 1910.

⁶⁷⁵ Rigveda IV. 24. 10.

⁶⁷⁷ Ibid., I. 126. 2.

⁶⁷⁹ Ibid., II. 33. 10.

⁶⁷³ Rigveda, X. 34.

⁶⁷⁶ Ibid., VIII. 1. 5.

⁶⁷⁸ Ibid., V. 19. 3.

⁶⁸⁰ Ibid., VIII. 47. 15.

to this passage the authors of the Vedic Index^{***} rightly observes "As early as the Rigveda traces are to be seen of niṣkas as a sort of currency. For a singer celebrates the receipt of a hundred niṣkas and a hundred steeds. He could hardly require the niṣkas merely for personal adornment."

But was the niṣka a coin ? This may be solved, as has been pointed out by Professor D. R. Bhandarkar by reference to hymn No. 33 of the second Maṇḍala of the Rigveda. Here the god Rūdra is described as wearing "niṣkam viśwarūpam." Now what can viśwarūpa mean ? Does it signify omniform ? If so, what is meant by saying that Rūdra's necklace was omniform. Before we try to arrive at a natural and plausible meaning of the term we must consider how the word niṣka could come to signify both a currency and a necklace. A little reflection tells us that this is possible only if we suppose that niṣka means not simply a currency but a coin, that niṣka denoted necklace because it consisted of niṣkas, the coins. In many parts of India people even to-day wear necklaces of gold mohars. In Mahārāstra people even to-day get a goldsmith to cast gold coins in imitation of certain Byzantine originals which they call Putalyā which are afterwards strung into a necklace called Putalyā. This custom of making necklaces out of coins is not of modern origin but was also prevalent in Ancient India. Thus the Kalpasūtra while describing the goddess Śrī whom Trisūla, the mother of Mahāvira saw in her dream, speaks of the former as bearing uratthadināra-mūlya i.e., a string of dīnāras (the Roman denarius) on her breast. Niṣka must, therefore, been taken in the sense of a coin and not merely a metallic currency. If this explanation is accepted, then a good sense of the term viśwarūpa is possible to fix upon. The rūpa in viśwarūpa can at once be recognised to be a word technical to the old Indian Science of Numismatics and denoting the symbol or figure on a coin which for that reason is called rūpa. Thus the necklace worn by Rūdra was composed of niṣka coins ; and just because these niṣka coins bore various rūpas or figures on them, the necklace was naturally viśwarūpa. The earliest of coins found in India are the punch-marked

coins and we know that no less than three hundred different devices or rūpas have been marked on them.

Manā was the name of another metallic money. It occurs in the following verse⁶⁸² "O Indra, bring us jewels, cattle, horses and manās of gold." The word manā is derived from the root man, to measure or man, to prize or value and therefore may well have been a metallic money of some fixed and recognised weight or value. This probably reached the valley of the Euphrates through the Phoenician traders where it became the Akkadian minā.

Unstamped metallic money of another kind was also known in this period. In one hymn⁶⁸³ we find mention of a gift of daśa hiranya-piṇḍa. As these hiranya-piṇḍas have been specifically mentioned as ten, it appears that each hiranya-piṇḍa conformed to a definite recognised weight or value. We need not be surprised at the existence of both stamped and unstamped money circulating in one and the same period. Even to this day the Dhābuas which are unstamped copper money circulate freely in the Nepalese Terai along with stamped coins of various denominations.

The existence of a metallic medium of exchange in general acceptance may be proved by other evidences. Thus in one hymn⁶⁸⁴ we read of a gift of 10,000 pieces ; another hymn⁶⁸⁵ mentions the gift of 100 pieces ; another hymn⁶⁸⁶ refers to the gift of a hundred and a thousand pieces. These gifts of so many pieces do undoubtedly refer to some definite standard in general acceptance, since without such a standard in general acceptance, we can hardly expect the mention of mere numbers without any further specification. Professor Wilson, therefore, in his note on Rigveda V. 27. 2 rightly observes "It is not improbable, however, that pieces of money are intended ; for, if we may trust Arrian, the Hindus had coined money before Alexander."

The general economic condition of the classes and the masses - In a system of private ownership of land and capital economic inequalities are

*** Rigveda, VIII. 78. 2.

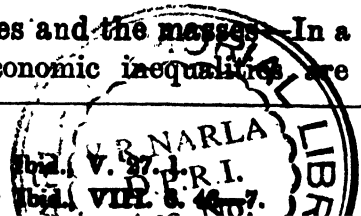
*** Rigveda, VI. 47. 23.

*** Ibid., V. 27. 2.

*** Ibid., V. 27. 2.

*** Ibid., VIII. 78. 2.

*** Ibid., VIII. 78. 2.



bound to exist and Rigvedic society was no exception to this general rule. The tendency towards the accumulation of capital in a few hands was helped partly by the development of domestic and foreign trade and partly by the existence of freedom of disposal of property specially for satisfying debts to creditors as the evidence of Rigveda X. 34 shows. The Rigveda mentions the Mahākulas⁶⁸⁷ and the Maghavans⁶⁸⁸ who were distinguished for their wealth and liberality. The princes and kings who stood on a higher level than the Mahākulas and the Māghavans are represented as more wealthy and liberal. Thus Svanaya, son of Bhāva gave Kāksīvān a hundred niṣkas, one thousand cows, ten chariots, with mares to draw them and sixty thousand cattle.⁶⁸⁹ The Rusamas gave away four thousand cattle.⁶⁹⁰ Prastoka (otherwise known as Divodīsa or Atithigva) gave away ten coffers, ten mettled horses, ten treasure-chests, ten garments, ten hiraṇyapīṇḍas, ten chariots with extra steed to each and one hundred cows.⁶⁹¹ Sudas, descendant of Pijavana gave away two hundred cows, two chariots with mares to draw them and four trained horses with pearl to deck them.⁶⁹² Āsanga gave ten thousand pieces together with ten bright-hued oxen.⁶⁹³ Āsanga's son Svanadratha gave away two brown steeds together with their cloths of gold.⁶⁹⁴ Vibhindu gave Medhyatithi forty-eight thousand pieces.⁶⁹⁵ Pākasthāman Kaurayān gave away a ruddy horse.⁶⁹⁶ Prince Kurunga gave away one hundred steeds and sixty-thousand cows.⁶⁹⁷ Kasu, son of Chedi gave away one hundred buffaloes and ten thousand cattle.⁶⁹⁸ Tirindira, son of Parsu, gave away one lac cows.⁶⁹⁹ The Yādavas gave to Pajra ten thousand cattle and steeds three times a hundred.⁷⁰⁰ Trasadasya made a gift of fifty female slaves.⁷⁰¹

⁶⁸⁷ Rigveda, I. 31. 12 ; II. 6. 4 ; V. 39. 4.

⁶⁸⁸ Ibid., I. 55. 4 ; V. 79. 4 ; VIII. 7. 21 ; VIII. Vālekhiya hymn No. 9. 3 ; X. 107. 4.

⁶⁸⁹ Ibid., I. 126. 2—3.

⁶⁹⁰ Rigveda, V. 30. 15.

⁶⁹¹ Ibid., VII. 18. 22—3.

⁶⁹² Ibid., VIII. 1. 32.

⁶⁹³ Ibid., VIII. 3. 22—3.

⁶⁹⁴ Ibid., VIII. 5. 37.

⁶⁹⁵ Ibid., VIII. 6. 47.

⁶⁹⁶ Ibid., VI. 47. 22.

⁶⁹⁷ Ibid., VIII. 1. 33.

⁶⁹⁸ Ibid., VIII. 2. 41.

⁶⁹⁹ Ibid., VIII. 4. 19—20.

⁷⁰⁰ Ibid., VIII. 6. 46.

⁷⁰¹ Ibid., VIII. 19. 36.

King Chitra "like Parjanya with his rain hath spread himself with thousand, yea, myriad gifts.⁷⁰² Prithusravas, son of Kanita, gave away sixty thousand steeds, ten thousand cattle and two thousand camels⁷⁰³ besides a chatiot wrought of gold.⁷⁰⁴ Even Bṛbu, the Paṇi chief is described as the giver of a thousand liberal gifts.⁷⁰⁵ The munificence of the rich patrons may be appreciated from the famous hymn on Dakṣiṇā which praises in glowing terms the givers of horses, cattle, clothes and gold.⁷⁰⁶

Side by side with these richer classes we find peoples in debt which was contracted for various purposes, gambling being one of them.⁷⁰⁷ The Paṇis are described as "usurers who counted the days for calculating interest."⁷⁰⁸ Debtors like other male factors were sometimes bound by their creditors to posts⁷⁰⁹ presumably as a means of putting pressure on them to pay up the debt. Everything was exacted, even the dwelling houses were sold and the debtors became homeless and destitute.⁷¹⁰ Sometimes they were reduced to slavery and their relations renounced them.⁷¹¹ The amount of interest payable is impossible to make out. In one passage⁷¹² an eighth (Ṣapha) and a sixteenth (Kalā) are mentioned as paid, but it is quite uncertain whether interest or an instalment of the principal is meant. Some were born in debt and were under a moral and legal obligation to pay off the debt of their ancestors as the following passage⁷¹³ will prove : "Discharge, O Varuṇa, the debts (contracted) by my progenitors and those now (contracted) by me ; and may I not, royal Varuṇa be dependent (on the debts contracted) by another. Many are the mornings that have, as it there, not dawned ; make us, Varuṇa, alive in them." Mr. Wilson observes "According to Sāyana, this means that persons, involved in debt are so overcome with anxiety that they are not conscious of the dawn of the day ; to them the morning has not dawned ; they are dead to the light of day. The passage is deserving of notice, indicating an advanced as well

⁷⁰² Ibid., VIII. 21. 18.

⁷⁰³ Ibid., VIII. 46. 22.

⁷⁰⁴ Ibid., VI. 45. 33,

⁷⁰⁵ Ibid., X. 34. 10.

⁷⁰⁶ Ibid., X. 34. 4.

⁷⁰⁷ Ibid., X. 34. 4.

⁷⁰⁸ Ibid., II. 28. 9.

⁷⁰⁴ Ibid., VIII. 46. 24.

⁷⁰⁶ Ibid., X. 107.

⁷⁰⁸ Ibid., VIII. 66. 10.

⁷¹⁰ Ibid., X. 34. 10.

⁷¹² Ibid., VIII. 47. 17.

as a corrupt state of society, the occurrence of debt, and severity of its pressure."

Economic pressure, however, became severest, when crops failed ; and it is worthy of note that despite the care for irrigation, famines were not unknown. Sasarpārī is said to have dispelled famine.⁷¹⁴ Fervent prayers were offered to drive away famine from the country :—

"Drive far from us poverty and famine,
(O sacrificial post)"⁷¹⁵

"Receive from us the arrow, keep famine,
O Ādityas, far away"⁷¹⁶

"O Much-invoked Indra, may we subdue all famine
and evil want with store of grain and cattle."⁷¹⁷

Indeed we read of "the needy who come in begging for bread to eat"⁷¹⁸ "of the begger who comes in want of food"⁷¹⁹ and "of the friend and comrade who comes imploring food."⁷²⁰ Hence great emphasis was laid on the virtues of hospitality⁷²¹ and liberality,⁷²² and the niggardly misers were cried down.⁷²³ Society expected the rich man to alleviate the distress of the needy as he himself may need the same assistance one day :

"Let the rich satisfy the poor implorer, and
bend his eye upon a longer journey.
Riches come now to one, now to another,
and like the wheels of cars are ever rolling."⁷²⁴

⁷¹⁴ Ibid., III. 53. 15.

⁷¹⁶ Ibid., VIII. 18. 11.

⁷¹⁸ Ibid., X. 117. 3.

⁷²⁰ Ibid., X. 117. 5.

⁷²² Ibid., X. 107.

⁷²⁴ Ibid., X. 117. 5.

⁷¹⁵ Ibid., III. 8. 2.

⁷¹⁷ Ibid., X. 42. 10.

⁷¹⁹ Ibid., X. 117. 4.

⁷²¹ Ibid., X. 117.

⁷²³ Ibid., IX. 63. 5.

CHAPTER V.

Brahmana Period.

(— 600 B. C.)

Definitely later than that depicted in the *Rigveda* is the civilisation presented by the later *Saṃhitās*, the *Brāhmaṇas*, the *Āraṇyakas* and the *Upaniṣads*. The story of the *Rāmāyaṇa* may have its origin in the later *Brāhmaṇa* period⁷²⁵ and the epic was composed according to Professor Macdonell⁷²⁶ before 500 B. C. In the period of the *Rigveda*, the centre of civilisation was tending to be localised in the land between the *Saraswatī* and the *Deśalbatī* rivers; but in the *Brāhmaṇa* period, as the period under review may conveniently be called, the localisation of civilisation in the more eastern part of the country is achieved. In the *Aitareya Brāhmaṇa* a geographical passage ascribes the Middle Country to the later *Madhya-deśa*, the *Kurus* and *Panchals* with the *Vasas* and *Usinaras*, to the south the *Satvats* and to the north beyond the *Himalayas*, the *Uttara-Kurus* and the *Uttara-Madras*. On the other hand, while the west recedes in importance, the regions, east of the *Kuru-Panchal* country come into prominence, specially *Kośala*, corresponding roughly to modern *Oudh*, and *Videha*, the modern *Tirhut* or *N. Bihar* and *Magalha*, the modern *South Bihar*. In the south we hear of non-Aryan tribes like the *Andhras*, *Pulindas*, *Pundras*, *Mutibas*, *Sabaras* and the *Naiśadas*.

Towns.—In keeping with this wider geographical outlook, the *Brāhmaṇa* period is marked by a greater knowledge of towns. The *White Yajur Veda*⁷²⁷ refers to *Kāmpīla* which the commentator takes to be *Kāmpīlya*, the *Pāṇchāla* capital. In the *Śatapatha Brāhmaṇa* we come across the names of two cities, namely, *Āsandhivat*,⁷²⁸ probably the capital

⁷²⁵ Rapson—*Cambridge History of India*, Vol. I., p. 317.

⁷²⁶ *History of Sanskrit Literature*, p. 309.

⁷²⁷ *XXIII*, 18.

⁷²⁸ *S. B. E.* Vol. *XLIV*. p. 396.

of King Janmejaya and Parivakra,⁷²⁹ the capital of the Panchāla Kings. The word nagara meaning a town frequently occurs in Brāhmaṇa literature as also the epithet nagarin. The Taittiriya Brāhmaṇa describes Janaśruteya as a nagarin. We also find epithets like Kauśamveya, Kauśalya and Vaidarva, derived from place-names which gradually grew into towns.

Land-system—The land was divided as in the previous period, into vāstu, arable land, pastures and forests. The vāstu as before was in private ownership. In the Chāndogya Upaniṣad⁷³⁰ houses are cited as instances of private wealth. The arable land was also in private ownership. In the Black Yajur Veda⁷³¹ we read “He should make an offering to Indra and Agni on eleven postherds who has a dispute about a field or with his neighbours.” “It is” says from Prof. Keith “a clear evidence of separate ownership of land.”⁷³² In the Chāndogya Upaniṣad⁷³³ we find fields along with houses cited as instances of private wealth. The pastures and the forests were enjoyed in common. Though this Right of Common or Estover was later on much circumscribed by the establishment of a highly centralised government, such as, under Chandragupta Maurya, the Brahmins or the learned nevertheless exercised the right of collecting fuel and other materials for religious purposes throughout ages. The Varana Jātaka,⁷³⁴ for example, tells us that five hundred pupils of a teacher of Takṣaśilā set out for the forest to gather firewood for their teacher and busied themselves in gathering sticks. The Agni Purāṇa⁷³⁵ lays down that a Brahmin exercises everywhere the right of collecting grass, fuel and flowers. Yājñabalkya⁷³⁶ is also of the view. It is well-known that the Āraṇyaka part of the Vedic literature was required to be read in the forests.

With the evidences at our disposal, it is difficult to decide whether the land belonged to the head of the family or to the members of joint families in common. The story told in the Aitareya Brāhmaṇa of Viśwāmitra

⁷²⁹ Ibid., p. 397.

⁷³⁰ VII. 24. 2.

⁷³¹ II. 2. 1.

⁷³² Keith—Veda of Black Yajus School, p. 147. fn. 1. Compare Vedic Index, I. 210, 211.

⁷³³ VII 21. 2 (Kṣetrāṇi āyatanāni).

⁷³⁴ No. 71.

⁷³⁵ Chapter CCLVii, 17.

⁷³⁶ II. 169.

who outcasted and expelled his fifty sons as also of the sale of Śunaḥśepa by his father Ajigarta in lieu of one hundred cows prove the autocratic authority of the head of the family. It is, however, doubtful as to whether these are instances which give us the real state of affairs or were arbitrary exercises of authority. Indeed we have evidences to prove the joint ownership of property. Not only do we find repeated mention of Sajāta and Samīna, meaning clansmen or men of the same family but in one hymn⁷³⁷ we find prayers to the gods for unity of the family :—

“Freedom from hate I bring to you, concord
and unanimity.

Love one another as the cow loveth the
calf that she hath borne.

One-minded with his mother let the son
be loyal to his sire.

Let the wife, calm and gentle, speak
words sweet as honey to her lord.

No brother hate his brother, no sister to
sister be unkind.

Unanimous, with out intent, speak ye
your speech in friendliness.

Let what you drink, your share of food
be common : together with one common bond I bid you.
Serve Agni, gathered round him like spokes
about the chariot nave.

In the Black Yajur Veda⁷³⁸ we read “The fore-sacrifices are the father, the after-sacrifices the son in that having offered the fore-sacrifices he sprinkles the oblations, the father makes common property with the son.” Mr. Keith⁷³⁹ observes “The commentator takes this as referring to the fact that the son’s earnings are his own, the father shares them with the family,

⁷³⁷ Atharva-veda, III. 30.

⁷³⁸ II. 6. 1.

⁷³⁹ Veda of the Black Yajus School, p. 206, fn. 2.

and this seems correct. Śṭyāṇa also notes that the son keeps his secretly *i.e.*, perhaps his ownership was *precarious*, not of right; the parallel to Roman law is striking and justifies us in accepting the view of the commentator." Elsewhere in the Black Yajur Veda⁷⁴⁰ we read "Manu divided his property among his sons. He deprived Nābhīnediṣṭha, who was a student, of any portion. He went to him, and said, 'How hast thou deprived me of a portion?' He replied, 'I have not deprived you of a portion; the Aṅgīrasas here are performing a Sattrā; they cannot discern the world of heaven; declare this Brāhmaṇa to them; when they go to the world of heaven they will give thee their cattle.' He told them it, and they when going to the world of heaven gave him their cattle. Rudra approached him as he went about with his cattle in the place of sacrifice, and said 'These are my cattle.' He replied 'They have given them to me.' 'They have not the power to do that' replied he, 'whatever is left on the place of sacrifice is mine.' Then one should not resort to a place of sacrifice. He said 'Give me a share in the sacrifice, and I will not have designs against your cattle.' He poured out for him the remnants of the mixed (Soma). Then indeed had Rudra no designs against his cattle."⁷⁴¹ This story which also occurs in the Aitareya Brāhmaṇa⁷⁴² shows undoubtedly that even during the life-time of the father, sons were regarded as having a vested interest in property, from which they could not be excluded at will. In the mythology of the Brāhmaṇa period we find that the children of the Father God *viz.*, gods and devils fight for their respective shares and "enter into their inheritance" by dividing it. In another mythology we find a man who has no son, dividing his property between his two wives. We find the gift of a field; of whole villages; of all the king's lands to a priest; and when thus given, the land cannot be alienated. If the king should at another time, give all his land to another, that piece which he has formerly given to the first priest, is not included in the later donation.

⁷⁴⁰ III. 1. 9.

⁷⁴¹ Compare MS. I. 5. 8, and for the substance see Vedic Index, I. 352. For Manu cf. Levi, *La doctrine du sacrifice*, pp. 115 *seq.*; Macdonell, *Vedic Mythology*, p. 138.

⁷⁴² V. 14.

But though the gift of lands specially to Brahmins who officiated in sacrifices⁷⁴³ was quite common there was a decided feeling against land-transfer in the Śatapatha Brāhmaṇa.⁷⁴⁴ From another passage of the same book⁷⁴⁵ we learn that Kṣatriya clansmen apportioned land given to them by a (Kṣatriya) king with the mutual consent of all. Later on when we come to the Chāndogya Upaniṣad⁷⁴⁶ we find that houses and fields were regarded as objects of private ownership and easily transferable.

It is difficult to decide as to whether the king was regarded as the owner of the land in this period. We are told in the Aitareya Brāhmaṇa⁷⁴⁷ that a priest's function is to take gifts, while the Vaiśya's peculiar function is to be devoured by the priest and nobleman. From this it is apparent that the Vaiśya cannot have any secure hold over his landed property. In one of the Upaniṣads it is said that the vital breath commands the other breaths just as a Śakṛtj commissions his officers saying, 'Be thou over these villages or those villages.' The statement of the Śatapatha Brāhmaṇa,⁷⁴⁸ namely, that every one here is fit to be eaten up by the king except the Brahmin, is not of much significance, since it only embodies in a nutshell the view that the royal contributions from the subjects which were at first probably fitful in their character, had by this time become a general burden devolving upon nearly all classes of people. Of greater importance is the passage of the Aitareya Brāhmaṇa, referred to above, declaring the Vaiśya from the point of view of the kṣatriya 'to be tributary to another, to be lived on by another, to be oppressed at will.' These striking phrases together with the epithet frequently applied in the Brāhmaṇas to the king, namely that he is the devourer of his people doubtless signify that the king's claim of taxing his subjects was limited only by his sweet free will, but there is nothing in them to indicate the king's ownership of the soil as distinct from his political superiority.⁷⁴⁹ Indeed it is clearly stated in

⁷⁴³ Śatapatha Brāhmaṇa XIII. 6. 2. 8 ; XIII. 7. 1. 13 and 15.

⁷⁴⁴ XIII.

⁷⁴⁵ Ibid., VII 1 1 4.

⁷⁴⁶ VII. 24. 2.

⁷⁴⁷ VII. 29, with Keith's translation in the Cambridge History of India, Vol. I. p 128.

⁷⁴⁸ V. 3, 3, 12 ; Ibid , 4, 2, 3.

⁷⁴⁹ Compare Vedic Index, S.V. Rājan, rejecting the view of Hopkins, *Op. cit.*, p. 222.

the Śatapatha Brāhmaṇa⁷⁵⁰ that to whomsoever the kṣatriya with the approval of the people or clan (viś) grants a settlement, that is properly given. This evidently refers to the public land of the folk and it seems to mean that while the king's gift of such land with the consent of the people was in accordance with the tribal or customary law, it was sometimes arbitrarily disposed of by the sole authority of the ruler. It is possible that originally in the Rigvedic period the king could deal with the public land only with the sanction of the tribal assembly, but afterwards during the times of the later Samhitās and the Brāhmaṇas the advance of the king's power had resulted in such land being looked upon as lying to some extent at the disposal of the Crown. The natural consequence of such development would be eventually to reduce the public lands to the condition of the king's private estates. But this step which seems to have been completed by the time of the Arthaśāstra was not reached in the period of the Brāhmaṇas.⁷⁵¹ Indeed the prayer in the Atharvaveda⁷⁵² for the grant of a share in villages to the king shows that the people granted him some land for the maintenance of his authority and dignity : there could have been hardly any room for this prayer if he was already the master of the soil. Professor Keith rightly observes "There can be no doubt that he (the king) controlled the land of the tribe. It is not, however, necessary to ascribe to this period the conception of the royal ownership of all the land, though it appears in the Greek source from the time of Megasthenes downwards and is evidenced later by law-books of the time. He had, it is true, the right to expel a Brahmin and a Vaiśya at will, though we do not know expressly that he could do this in the case of a Kṣatriya. But these considerations point to political superiority rather than to ownership proper and we may assume that when

⁷⁵⁰ VIII. 1. 73, 4.

⁷⁵¹ According to the Vedic Index, s. v. Grāma, the king's right to apportion the land with the consent of the clan (as mentioned *eg.*, in the text of the Śatapatha Brāhmaṇa quoted above) contains the germ of the later State ownership of the soil. It is difficult to support this view, since the king's right of apportionment just mentioned is apparently concerned with the disposal of the public land as distinguished from the land held in private ownership by the freemen.

⁷⁵² IV. 22. 2.

he gave grants of land to his retainers, he granted not ownership but privileges such as the right to receive dues and maintenance from the cultivators. There is a clear distinction between this action and the conferring of ownership, and it may be doubted if the actual gift of land was approved in this epoch. The only case of which we hear is one reported in the Śatapatha and Aitareya Brāhmaṇas in which the King Viśwakarman Bhauvana gave land to the priests who sacrificed for him but the earth itself rebuked his action. It is more probable that at this time, the allotment of land was determined by the king or by the noble to whom he had granted the rights of superiority according to customary law and that gifts not in accordance with this customary law were disapproved. It is hardly necessary to point out the close similarity between such a state of affairs and that existing at the present day in parts of West Africa, where kings have introduced for purposes of personal gain the practice of dealing as absolute owners with lands which according to the strict custom of tribal law they have no power to allocate save in accordance with the custom of the tribe. Nor is it inconsistent with the view that the king had an arbitrary power of removing a subject from his land. That power flowed from his sovereignty and though disapproved, was acquiesced in, we may presume, just as in West Africa ; while the dealing of kings with lands by way of absolute ownership was regarded as a complete breach of the tribal law, the actual removal from his land, of any individual was recognised as a royal prerogative, even if the power was misused.”⁷⁵³

As to the king's revenue we have the following passage in the Atharvaveda :

“Emaṃ bhaja grāme aśveṣu goṣu niṣṭhaṃ
bhaja yo amitro asya.”⁷⁵⁴

“Give him a share in village, kine and horses and leave
his enemy without a portion, (O Indra).

The king's share is called ‘bali’ in the Vedic Saṃhitās and the Brāhmaṇas which is also used to denote the tribute paid by the conquered enemies and

⁷⁵³ Rapson—Cambridge History of India, Vol. 1. pp. 132—33.

⁷⁵⁴ Atharvaveda IV. 22. 2.

offerings made to the gods.⁷⁵⁵ Along with this is mentioned *hiranya* which as Professor U. N. Ghosal has suggested, means cash charge upon certain special classes of crops.⁷⁵⁶ As to any fixed share of the produce being paid to the king, the evidence of the following passage of the Atharvaveda is significant :

“Yad rājāno bibhajanta iṣṭāpurttasya ṣoḍaśam
Yamasyāmi sabhāsadaḥ”⁷⁵⁷

“When yonder kings who sit beside Yama divide
among themselves the sixteenth part of hopes fulfilled.”

This passage occurs in a hymn whose subject is immunity from taxation in the next world to be purchased by the performance of a certain sacrifice on earth and may, therefore, well point to the royal share being assessed to a sixteenth part of the produce in those days.

The rise of a landed aristocracy, of men who stood as intermediaries between the king and the common cultivator is hinted at in several passages of the Black Yajur Veda. There we are told in connection with the performance of certain sacrifices by a person desirous of winning a village (*grāmakīma*) how the gods concerned ‘assign him creatures led by the noses’⁷⁵⁸ how they ‘present his relatives to him and make the folk dependent on him’⁷⁵⁹ and how they enable him to grasp the mind of his equals.⁷⁶⁰ These significant expressions can only refer to the lordships of single villages either obtained through royal favour or acceptance by villagers or acquired in the first instance by individual exertion, but afterwards receiving the seal of royal confirmation. According to the authors of the Vedic Index what the king granted was his right of levying contributions and probably nothing more. In the other case the man attained nothing more than social pre-eminence in as much as it required the sanction of *sajītas* and *senitis*, and this shows that no

⁷⁵⁵ Macdonell and Keith—Vedic Index, s. v. *bali*.

⁷⁵⁶ U. N. Ghosal — Contributions to the History of the Hindu Revenue System, pp. 59—62.

⁷⁵⁷ Atharvaveda, III. 29. 1.

⁷⁵⁸ Black Yajur Veda, II. 1. 1. 2.

⁷⁵⁹ Ibid., II. 1. 3. 2.

⁷⁶⁰ Ibid., II. 3. 9. 2.

real rights were parted with by the *sajātas* but were vested in him. When we come to later literature we find instances of gifts of villages by kings. The *Chāndogya Upaniṣad*⁷⁶¹ mentions the gift of a village by king *Janaśruti* to *Raikka*. In subsequent periods such gifts of villages were common and this contributed to the growth of the *Mahāsālas* whom we find in the *Upaniṣads* and in early Buddhist literature. The evidence of Buddhist literature shows, as we shall see later on, that the *Mahāsālas* enjoyed the revenue of villages and may be regarded as occupying the position of land-lords.

As regards the *law of inheritance* we have a passage even in the *Rigveda*⁷⁶² which according to *Sāyaṇa*'s interpretation appear to attribute, in a very obscure manner, to the customs or laws of succession to property among men. The passage reads thus :

“Wise, teaching, following thought of Order,
the sonless gained a grandson from his daughter.
Fain, as a sire, to see his child prolific, he sped
to meet her with an eager spirit.
The son left not his portion to the brother

The word *vāhniḥ*, which usually means an oblation-bearer, a sacrificer, a priest or one who is borne along as a god in a celestial car, is taken by *Sāyaṇa* to mean sonless, the father of a daughter only. The sonless father, according to *Sāyaṇa*, “stipulates that his daughter’s son, his grandson, shall be his son, a mode of affiliation recognised by law ; and relying on an heir thus obtained, and one who can perform his funeral rites, he is satisfied.” *Sāyaṇa* interprets “The son left not his portion to the brother” thus : “a son born of the body does not transfer (paternal) wealth to a sister.”⁷⁶³ We have two mythological accounts of father *Manu* (not as Law-giver but as Adam of the race) and of the division of his inheritance. One of them

⁷⁶¹ IV. 2. 4.

⁷⁶² III. 31. 1—2.

⁷⁶³ Professor Wilson remarks “These two verses, if rightly interpreted, are wholly unconnected with the subject of the *Sūkta*, and come in without any apparent object : they are very obscure, and are only made somewhat intelligible by interpretations which seem to be arbitrary, and are very unusual, although not peculiar to *Sāyaṇa*, his explanation being based on those of *Yāska*.

says "Manu divided his property among his sons ; one of them Nāvānediṣṭha by name living elsewhere as a student he excluded from a share."⁷⁶⁴ The other account says "The brothers excluded from a share one of Manu's sons."⁷⁶⁵ In both the accounts the property is divided in the father's life-time and the division was equal. In due course Nāvānediṣṭha demanded his share and his claim was accepted in principle, though many obstacles intervened in his regaining his lawful share. The story shows undoubtedly that even during the life-time of the father, son were regarded as having a vested interest in property, from which they could not be excluded at will. The Black Yajur Veda⁷⁶⁶ speaks of a father making common property with a son. The commentator takes this as referring to the fact that the son's earnings are his own, the father shares them with the family and this seems correct. Sāyaṇa also notes that the son keeps his secretly, *i.e.*, perhaps his ownership was *precario*, not of right ; the parallel to Roman law is striking and justifies us in accepting the view of the commentator. In the mythology of the Brāhmaṇa period we find that the children of the Father God viz., gods and devils fight for their respective shares and "enter into their inheritance" by dividing it. The division of property among the sons was not always equal, the eldest often getting a little more than the others, probably even a double share of the wealth as is evident from the following passage of the Atharvaveda.⁷⁶⁷

"Agni, the banqueter on flesh, not banished,
for the eldest son

Taketh a double share of wealth and
spoileth it with poverty."

The meaning of the passage seems to be, that if the rites are not duly performed the eldest son of the departed, though he receives a double share of the property, will be eventually ruined.

Agriculture—Progress was doubtless made in agriculture. The plough was large and heavy ; we hear of as many as six⁷⁶⁸ or eight⁷⁶⁹ or

⁷⁶⁴ Black Yajur Veda, III. 1. 9.

⁷⁶⁵ Aitareya Brāhmaṇa, V. 14.

⁷⁶⁶ II. 6. 1.

⁷⁶⁷ XII. 2. 35

⁷⁶⁸ Atharvaveda, VI. 91. 1 ; Black Yajur Veda, V. 2. 5.

⁷⁶⁹ Atharvaveda, VI. 91. 1.

twelve⁷⁷⁰ oxen being harnessed to the plough. The plough was "of keen share, with well-polished handle."⁷⁷¹ The seasons bearing on agriculture are mentioned in the Black Yajur Veda. Thus barley ripen in the hot season, rice in autumn, beans and sesamum in winter and the cool season.⁷⁷² Further we learn that "twice in the year does the corn ripen."⁷⁷³ According to the Kauṣītaki Brāhmaṇa⁷⁷⁴ the winter crop was ripe by the month of Chaitra. The mention of a double crop shows a distinct advance in agriculture, which may be attributed partly to the larger use of manure and irrigation and partly to the knowledge of the cultivation of a larger variety of grains and plants which grew in different parts of the year. Indeed the advantages of a rotation of crops were fully realised. Thus a season of barley (yava) would be succeeded by one of rice (vrihi)⁷⁷⁵ bean (mudga or māsha) and sesamum (tila). Besides these, other varieties of crops mentioned in the White Yajur Veda⁷⁷⁶ were probably sown on the principle of rotation.⁷⁷⁷

The adoption of a system of rotation of crops, combined with the undeveloped state of intensive cultivation, apparently gave rise to what is known as the Field-grass system or Pasture or Two-field and Three-field systems. We may call this system of 'Khila' system of agriculture, for the

⁷⁷⁰ Black Yajur Veda, V. 2. 5.

⁷⁷¹ Atharvaveda, III. 17. 3 = Black Yajur Veda, IV. 2. 5.

⁷⁷² Black Yajur Veda, VII. 2. 10.

⁷⁷³ Ibid., V. 1. 7.

⁷⁷⁴ XIX. 3.

⁷⁷⁵ Compare Gobhila, I. 4. 29 and Khādīra, I. 5. 37 : "From the rice harvest till the barley (harvest) or from the barley (harvest) till the rice (harvest) he should offer the sacrifices."

⁷⁷⁶ XVIII. 12.

⁷⁷⁷ As the seasons of the Vedic Age did not exactly coincide with those of later times a short notice seems necessary here. In the Rīgveda five seasons are mentioned viz., Vasanta (Spring), Grīṣma (Summer), Śarat (Autumn), Prāṇīṣa (Rainy season) and the Hemanta or Hima (Winter). The Brāhmaṇas also mention these seasons. The Śāṃkhāyana Gṛihya Sūtra (IV. 18. 1) also mentions only five seasons of the year. A sixth season was recognised later on as the evidence of Kautilya's Atharvashāstra (Book II. Chapter 20) shows. See Tilak *Artic Home in the Vedas*, p. 183 ; Macdonell and Keith—*Vedic Index*, I. pp. 110—11 ; Zimmer—*Altindisches Leben*, pp. 373—74.

reason that land in those days appears to have been alternately cultivated and laid fallow (khila) to recover its fertility.⁷⁷⁸ Under the Two-field system there were two plots of land, one remaining under cultivation in any particular year or season, and the other lying fallow after the last harvest. In alternate years or so the fallow lands, serving temporarily as pastures would be brought under cultivation. At a time when intensive cultivation was still in incipency, this method would enable land to recover fertility easily. In very early times when the number of crops raised did not exceed one or two, the system was a simple one ; one plot of land would in a particular season remain under cultivation, say, of barley (yava) only while the other would remain fallow say, after the rice-harvest. But when the number of crops raised increased and the cultivator sowed and reaped more than two varieties in rotation,⁷⁷⁹ the system followed must have been a Three-fold system, three or four varieties being raised in two of the fields every year and the third lying fallow once in every three years. The ideal system that would work, may be thus indicated : let A, B and C be the three fields ; then, in the first year, A would produce in rotation, say, Yava and Vrihi, B would similarly produce in rotation tila, māṣha, godhūma or maśura⁷⁸⁰ and C would remain fallow ; in the second year, A would be cultivated intensively for one or two crops, B would remain fallow and C would produce two crops in rotation ; in the third year, A would lie fallow, B would produce one or two crops like A in the second year, and C would produce one or two crops like A in the first or the second year if B produces one crop, C produces two and vice-versa.⁷⁸¹

Some more details about agricultural operations are forthcoming. The Śatapatha Brāhmaṇa⁷⁸² mentions the operations of ploughing, sowing, reaping and threshing. The Atharvaveda⁷⁸³ mentions the use of manure

⁷⁷⁸ See Professor Kishori Mohan Gupta's article on "The Land system and Agriculture of the Vedic Age" in Sir Asutosh Silver Jubilee Volume on *Orientalia*, Vol. III. Part II.

⁷⁷⁹ White Yajur Veda, XVIII. 12 seems to refer to this.

⁷⁸⁰ White Yajur Veda, XVIII. 12 ; Black Yajur Veda, VII. 2. 10. 2.

⁷⁸¹ Prof. K. M. Gupta — Land System in South India between 800 A. D. and 1200 A. D., pp. 197—99.

⁷⁸² I. 6. 1. 3.

⁷⁸³ III. 14. 3.

(karisa, cow-dung). One of its hymns⁷⁸⁴ was composed on the occasion of cutting a channel for irrigation or to avert a flood. Here the newly cut canal is described as a calf to the river which is the cow.⁷⁸⁵ Well irrigation is thus described in the Black Yajur Veda.⁷⁸⁶

“Make firm the straps,
Fasten the buckets ;
We shall drain the well full of water,
That never is exhausted, never faileth.⁷⁸⁷
The well with buckets fastened,
With strong straps, that yieldeth abundantly,
Full of water, unexhausted, I drain.”⁷⁸⁸

The Kauśika Saṃhitā⁷⁸⁹ also refers to canal irrigation and gives us the practical part of the ceremony of letting in the water. At first some gold plate is deposited on the bed, a frog with a blue and red thread round it, is made to sit on the gold plate and after this the frog is covered with an aquatic plant called Śeṣala and water is then let in.

As to the crops, the Atharvaveda mentions besides yava, sesamum,⁷⁹⁰ vrihi⁷⁹¹ (as also tandula⁷⁹²). We also find the word śārisākā⁷⁹³ which Griffith has translated as cultivated rice.⁷⁹⁴ The cultivation of sugarcane is also referred to in the Atharvaveda.⁷⁹⁵ The White Yajur-veda mentions a large number of crops. Thus we read :

“Vrihayaścha me yavāscha me māśāscha me
tilāscha me mudgāscha me khālvaścha me
priyañgavaścha me navaścha me
śyāmākāscha me nīvārāscha me godhumāscha
me masuraścha me yajñena kalpyantām.”⁷⁹⁶

⁷⁸⁴ III. 13.

⁷⁸⁵ III. 13. 7.

⁷⁸⁶ IV. 2. 5.

⁷⁸⁷ Cf. Rigveda X. 101. 5 ; Kāṭhaka Saṃhitā XXXVIII. 14.

⁷⁸⁸ Cf. Rigveda, X. 101. 6.

⁷⁸⁹ XL. 3—6.

⁷⁹⁰ II. 8. 3 ; XVIII. 3. 69.

⁷⁹¹ VI. 140. 2 ; VIII. 7. 20 ; IX. 6. 14 ; XII. 4. 18, 30, 32 ; cf. IV. 35.

⁷⁹² X. 9. 26.

⁷⁹³ III. 14. 5.

⁷⁹⁴ Griffith's Atharvaveda, Vol. I. p. 101, 101 fn.

⁷⁹⁵ I. 34. 1, 5.

⁷⁹⁶ XVIII. 12.

"May my rice-plants and my barley and my beans and my sesamum and my kidney-beans and my vetches and my millet and my *Panicum Milliaceum* and my *Panicum Frumentaceum* and my wild rice and my wheat and my lentils prosper by sacrifice."⁷⁹⁷ Upavākas or Indra-yavas (seeds of the *Wrightia Antidysenterica*) are also mentioned in the White Yajurveda.⁷⁹⁸ The Black Yajurveda mentions Yava,⁷⁹⁹ rice,⁸⁰⁰ beans⁸⁰¹ and sesamum.⁸⁰² The Black Yajurveda⁸⁰³ also distinguishes between the black swift-growing āśu and the mahāvrihi. In another place⁸⁰⁴ we find reference to black rice and white rice. The Taittirīya Brāhmaṇa⁸⁰⁵ speaks of two kinds of rice āśu and mahāvrihi. The Bṛhadāraṇyaka Upaniṣad mentions a large number of crops. Thus we are told "There are ten kinds of village (cultivated) seeds viz., rice and barley (vrihiyavas), sesamum and kidney-beans (tilamṛtsās), millet and panic seed (anupriyangavas), wheat (godhumā), lentils (masūrā), pulse (khalvā) and vetches (khalakula)."⁸⁰⁶ The Rāmāyaṇa mentions sesamum,⁸⁰⁷ mudga,⁸⁰⁸ mustard,⁸⁰⁹ māsā,⁸¹⁰ śāli rice⁸¹¹ (as also tandula⁸¹²). The Rāmāyaṇa refers to sugarcane,⁸¹³ sugarcandy⁸¹⁴ as well as molasses.⁸¹⁵ Royal grain-stores are also mentioned.⁸¹⁶

⁷⁹⁷ Griffith's White Yajurveda, p. 194.

⁷⁹⁸ XIX. 22.

⁷⁹⁹ I. 3. 1, 2, 6 ; VII. 2. 10.

⁸⁰⁰ VII. 2. 10.

⁸⁰¹ Ibid.

⁸⁰² Ibid.

⁸⁰³ I. 8. 10.

⁸⁰⁴ II. 3. 1. 3.

⁸⁰⁵ I. 7. 3. 4.

⁸⁰⁶ 6th adhyāya, 3rd Brāhmaṇa, verse 13. Max Muller's Translation in S. B. E. Vol. XV., p. 214.

⁸⁰⁷ Ajodhyākāṇḍa, 20th sarga ; Uttarakāṇḍa, 104th sarga.

⁸⁰⁸ Ajodhyākāṇḍa, 20th sarga ; Uttarakāṇḍa, 104th sarga.

⁸⁰⁹ Ajodhyākāṇḍa, 25th sarga.

⁸¹⁰ Uttarakāṇḍa, 104th sarga.

⁸¹¹ Bālakāṇḍa, 5th sarga ; Ajodhyākāṇḍa, 32nd sarga.

Compare dhānya in Bālakāṇḍa, 6th sarga.

⁸¹² Bālakāṇḍa, 5th sarga ; Uttarakāṇḍa, 104th sarga.

⁸¹³ Ajodhyākāṇḍa, 91st sarga ; Uttarakāṇḍa, 104th sarga.

⁸¹⁴ Ajodhyākāṇḍa, 91st sarga.

⁸¹⁵ Uttarakāṇḍa, 105th sarga.

⁸¹⁶ Ajodhyākāṇḍa, 36th sarga.

From the Rāmāyaṇa⁸¹⁷ we learn that agriculture was an important art, for, it was included in Vārttā which along with Trayī and Daṇḍaniti comprised the famous three branches of learning. In the Rāmāyaṇa⁸¹⁸ we find that when Bharata came to the forest to take Rāma back to Ajodhyā, Rāma enquired of Bharata whether agriculturists found favour with him, in fact whether all persons living by Vārttā are prospering in his kingdom, for, it was the duty of the king to look after their interests and welfare. As a matter of fact, we find that in Rāma's time the world was green with corn⁸¹⁹; every city, village and kingdom had plenty of corn.⁸²⁰ Kośala mahājanapada abounded in corn.⁸²¹ Ajodhyā is described as abounding in corn.⁸²² Every house in the city of Ajodhyā was filled with śālī rice.⁸²³ The Vatsakingdom had plenty of corn (Ajodhyākāṇḍa, 52nd sarga). The banks of the Māgadhī river are described as very fertile and as producing corn.⁸²⁴ The banks of the river Pampā flowing through the kingdom of Kiṣkindhyā abounded in corn.⁸²⁵ Corn is also grown in Drāviḍa, Sind, Soubira, Sourāṣṭra, Dakṣiṇāpatha, Anga, Banga, Magadha, Matya and Kāśī.⁸²⁶

The farmer had as now constant trouble to contend with : the fields were covered with weeds like salanjāla and nilagalasīlā⁸²⁷; moles destroyed the seeds; birds and other creatures destroyed the young shoots; both drought and excessive rain destroyed the crops; and lightning often injured crops and plants. The Atharvaveda provides us with a considerable number of spells to avoid these disasters and secure a good harvest. Thus we read :

⁸¹⁷ Ajodhyākāṇḍa, sarga 100, verse 68.

⁸¹⁸ Ibid., sarga 100, verse 47.

⁸¹⁹ Uttarakāṇḍa, sarga 70.

⁸²⁰ Bālakāṇḍa, sarga 2.

⁸²¹ Bālakāṇḍa, sarga 5; Ajodhyākāṇḍa, sarga 50.

⁸²² Ajodhyākāṇḍa, sarga 75; Ibid., sarga 82; Ibid., 34.

⁸²³ Bālakāṇḍa, sarga 5.

⁸²⁴ Bālakāṇḍa, sarga 32.

⁸²⁵ Kiṣkindhyākāṇḍa, sarga 1.

⁸²⁶ Ajodhyākāṇḍa, sarga 10.

⁸²⁷ Atharvaveda, VI. 16. 4.

“Destroy the rat, the mole, boring beetle, cut off
 their heads and crush their ribs, O Aświns
 Bind fast their mouths ; let them not eat our barley”⁸²⁸
 “Spring high, O Barley, and become much through
 thine own magnificence :
 Burst all the vessels : let the bolt from heaven forbear
 to strike the down.”⁸²⁹
 “Strike not, O God, our growing corn with lightning,
 nor kill it with the burning rays of Sūrya.”⁸³⁰

We have also charms for hastening the coming of periodical rains,⁸³¹ for fair weather⁸³² and to avert inundation.⁸³³ All these precautions generally resulted in agricultural prosperity which we find described in many hymns of the Atharvaveda and the other Samhitās. It is not necessary to quote at length the prayers for a bumper harvest,⁸³⁴ increase of cattle⁸³⁵ and accumulation of wealth⁸³⁶ ; though these harvest songs throw much light on the requirements of the peasantry and their simple ideas of happiness.

Despite these precautions famines were not unknown. In the Chāndogya Upaniṣad⁸³⁷ we are told of a famine caused by the destruction of crops by locusts (mataci) whose intensity was so great that a muni Cakrāyana by name had to migrate to a neighbouring country along with his young wife and had to live on kulmāṣa. In the Rāmāyaṇa we find that in Rāma's time the people were free from famine.⁸³⁸ Nevertheless we find that after the destruction of Vṛtrāsura owing to drought many people died

⁸²⁸ Ibid., VI. 50. 1.

⁸²⁹ Ibid., VI. 142. 1.

⁸³⁰ Ibid., VII. 11. 1.

⁸³¹ Ibid., IV. 15.

⁸³² Ibid., VI. 128.

⁸³³ Ibid., VII. 18. See Kauśikasūtra, CIIL. 3. and Weber's Omens and Portents, p. 366.

⁸³⁴ Ibid., IV. 39. 2 ; VI. 142 ; XIX. 7. 4 ; XIX. 9. 1.

⁸³⁵ Ibid., I. 31. 4 ; I. 15. 2 ; VI. 16 ; VI. 59. ; VII. 104.

⁸³⁶ Ibid., I. 15 ; I. 26. 2 ; IV. 39 ; VI. 55. 2 ; VII. 16 ; VII. 17 ; VII. 20. 3 ; VII. 40 ; VII. 41 ; XIX. 3 ; XIX. 7. 5 ; XIX. 10. 2.

⁸³⁷ I. 10. 1—3.

⁸³⁸ Bālakāṇḍa, sarga 1 ; Uttarakāṇḍa, sarga 112.

of famine.⁸³⁹ Again owing to the sin of king Lomapāda, famine over took his kingdom of Anga.⁸⁴⁰

Forests and their economic importance—Besides serving as natural pastures the forests supplied an essential part of the economic needs of the people of this age. They provided them with wild rice (nivāra),⁸⁴¹ fuel⁸⁴² and with the materials for the construction of houses,⁸⁴³ chariots,⁸⁴⁴ sacrificial implements⁸⁴⁵ and animals.⁸⁴⁶ They were a perennial source of supply of medicinal herbs and plants⁸⁴⁷ as well as of sacrificial grass.⁸⁴⁸ They also supplied the people with aloe (aguru),⁸⁴⁹ bdellium (guggulu),⁸⁵⁰ spikenard (naladī),⁸⁵¹ resin (śālanirjyāsa),⁸⁵² musk,⁸⁵³ sandalwood,⁸⁵⁴ lac,⁸⁵⁵ hides,⁸⁵⁶ fruits⁸⁵⁷ and honey.⁸⁵⁸ Sandalwood was used not only for the cremation of kings⁸⁵⁹ but also for preparing a paste for personal

⁸³⁹ Uttarakāṇḍa, sarga 99.

⁸⁴⁰ Bālakāṇḍa, sarga, 9.

⁸⁴¹ White Yajurveda, XVIII. 12.

⁸⁴² Rāmāyaṇa, Aranyakāṇḍa, 11th sarga.

⁸⁴³ Rāmāyaṇa, Ajodhyākāṇḍa, 56th sarga; Ibid., Aranyakāṇḍa, 15th sarga.

⁸⁴⁴ Griffith's Atharvaveda, Vol. II. p. 440 fn.

⁸⁴⁵ Rāmāyaṇa, Bālakāṇḍa, 14th sarga.

⁸⁴⁶ White Yajurveda, XXIV. 1—40.

⁸⁴⁷ See below.

⁸⁴⁸ Ibid.

⁸⁴⁹ Rāmāyaṇa, Ajodhyākāṇḍa, 76th, 86th and 91st sargas.

⁸⁵⁰ Atharvaveda, II. 33. 7; IV. 37. 3; XIX. 38. 1, 2; Compare White Yajurveda, V. 13.

⁸⁵¹ Atharvaveda, IV. 37. 3.

⁸⁵² Rāmāyaṇa, Ajodhyākāṇḍa, 76th sarga.

⁸⁵³ Ibid., Laṅkākāṇḍa, 75th sarga.

⁸⁵⁴ Ibid., Aranyakāṇḍa, 15th, 35th and 60th sargas; Ibid., Kiṣkindhyākāṇḍa, 1st, 27th, and 41st sargas;

⁸⁵⁵ Ibid., Ajodhyākāṇḍa, 75th sarga; Ibid., Kiṣkindhyākāṇḍa, 23rd sarga.

⁸⁵⁶ Ibid., Aranyakāṇḍa, 43rd sarga (deer-skin) Ibid., Laṅkākāṇḍa, 75th sarga (tiger-skin and the yak's tail).

⁸⁵⁷ See below.

⁸⁵⁸ Atharvaveda, I. 34. 1—4; III. 30. 2; IV. 36. 6; VII. 56. 2; IX. 1. 16—19, 22; Compare Ibid., XVIII. 2. 14; XVIII. 4. 3; White Yajurveda, I. 16; XVII. 3. 13; XVIII. 65; Black Yajurveda, V. 2. 6; V. 4. 2; Rāmāyaṇa, Ajodhyākāṇḍa, 75th sarga, etc.

⁸⁵⁹ Rāmāyaṇa, Kiṣkindhyākāṇḍa, 25th sarga.

adornment.⁸⁶⁰ The milky juice of the *Ficus Indica* (Bata) leaves was used in preparing matted locks of hair.⁸⁶¹ No wonder, therefore that the poet-priests sang in the following strain :—

“May the plants be sweet for us.”⁸⁶²

“May the tall trees be full of sweets for us.”⁸⁶³

The various useful trees known to the people of this period are :—
 (1) *Vibhidaka* or *Vibhitaka* (*Terminalia Bellerica*)⁸⁶⁴ whose nuts were used as dice in very early times.⁸⁶⁵ (2) *Palāśa* or *Parṇa* (*Butea Frondosa*)⁸⁶⁶ from whose wood covers of some sacrificial vessels were made.⁸⁶⁷ The great ladle called *Juhū* with which clarified butter was poured into the sacrificial fire⁸⁶⁸ and other sacrificial vessels were made of this wood, to which in the shape of amulets, also great efficacy was ascribed.⁸⁶⁹ (3) *Udumbara* (*Ficus Glomerata*)⁸⁷⁰ from whose wood besides amulets, sacrificial posts and ladles were made.⁸⁷¹ In the *Bṛhadāraṇyaka Upaniṣad*⁸⁷² we are told : Four things are made of the wood of *Udumbara* tree, the sacrificial ladle (*sruva*), the cup (*kamsa*), the fuel and the two churning sticks.” (4) *Vaikankata*

⁸⁶⁰ Ibid., *Ajodhyākāṇḍa*, 76th, 78th, 88th and 91st *sargas*.

⁸⁶¹ Ibid., 52nd *sarga*.

⁸⁶² White *Yajurveda*, XIII. 27.

⁸⁶³ Ibid., XIII. 29.

⁸⁶⁴ *Atharvaveda*, VII. 109. 1.

⁸⁶⁵ *Rigveda*, X. 34. 1.

⁸⁶⁶ *Atharvaveda*, III. 5 ; V. 5. 6 ; XIV. 1. 61 ; XVIII. 4. 53 ; White *Yajurveda*, XI. 57. 50 ; XII. 86. 79 ; XXXV. 4 ; Black *Yajurveda*, IV. 2. 6 ; VII. 4. 12 ; *Rāmāyaṇa*, *Bālākāṇḍa*, 14th *sarga* ; *Ajodhyākāṇḍa*, 63rd *sarga*.

⁸⁶⁷ *Atharvaveda*, XVIII. 4. 53.

⁸⁶⁸ Black *Yajurveda*, III. 5. 7.

⁸⁶⁹ *Atharvaveda*, III. 5. Prof. Weber observes that *Palāśa* or *Parṇa* is etymologically identical with the German *Farn*, English *Fern* ; *Fern*-seed was supposed to have the power of rendering one who carried it invisible, and the plant was said to be of celestial origin and able to secure the fulfilment of every wish (*Simrock*, *Handbuch der Deutschen Mythologie*, p. 498).

⁸⁷⁰ *Atharvaveda*, XIX. 31 ; White *Yajurveda*, V. 26. 26, 28 ; Black *Yajurveda*, III. 4. 8 ; VII. 4. 12.

⁸⁷¹ Griffith's *Atharvaveda*, Vol. II. p. 287 fn.

⁸⁷² 6th *Adhyāya*, 3rd *Brāhmaṇa*, 13.

(*Flacourtia Sapida*)⁸⁷³ whose wood was used as sacrificial fuel as well as for manufacturing vessels for spirituous liquors.⁸⁷⁴ (5) *Madhuka* or *Mandhuka* (*Bassia Latifolia*)⁸⁷⁵ whose wood was used as sacrificial fuel.⁸⁷⁶ (6) *Aratu* (calosan this *Indica*),⁸⁷⁷ a hard wooded tree from whose timber the axles of chariots and carts were made.⁸⁷⁸ (7) *Bilva*⁸⁷⁹ which grows wild and produces an edible fruit, the wood-apple. It was used to curdle milk.⁸⁸⁰ (8) *Chandana*, sandal-wood.⁸⁸¹ The *Rāmāyana*⁸⁸² refers to three kinds of sandal wood viz., *Gośira*, *Padmaka* and *Hariśyāma*. (9) *Syandana*⁸⁸³ (10) *Raktachandana*⁸⁸⁴ (11) *Nagakeśara*⁸⁸⁵ (12) *Siṃha-keśara*⁸⁸⁶ (13) *Nāga*⁸⁸⁷ (14) *Punnāga*⁸⁸⁸ (15) *Śiśunāga*⁸⁸⁹

⁸⁷³ White Yajurveda, X. 34. 32 ; XI. 75. 71 ; XVII. 74.

⁸⁷⁴ White Yajurveda X. 34. 32. Compare *Vikankata* tree in Black Yajurveda, III. 5. 7 ; V. 1. 9 ; V. 4. 7 ; VI. 4. 10.

⁸⁷⁵ Black Yajurveda, III. 4. 8 ; *Rāmāyana*, *Ajodhyākāṇḍa*, 94th sarga ; *Aranyakāṇḍa*, 11th sarga ; *Laṅkākāṇḍa*, 4th sarga ; *Uttarakāṇḍa*, 52nd sarga.

⁸⁷⁶ Black Yajurveda, III. 4. 8.

⁸⁷⁷ *Atharvaveda*, XX. 131. 17, 18.

⁸⁷⁸ Griffith's *Atharvaveda*, Vol. II. p. 440 fn.

⁸⁷⁹ *Atharvaveda*, XX. 133. 3 ; White Yajurveda, XIX. 22 ; XIX. 89 ; XIX. 91 ; XXI. 29 ; Black Yajurveda, II. 5. 3 ; *Rāmāyana*, *Aranyakāṇḍa*, 13th sarga.

⁸⁸⁰ Black Yajurveda II. 5. 3. Sacrificial posts were made of *Bilva* wood (*Rāmāyana*, *Bālakāṇḍa*, 14th sarga).

⁸⁸¹ *Rāmāyana*, *Aranyakāṇḍa*, 15th, 25th and 60th sargas ; *Kiṣkindhyākāṇḍa*, 1st, 27th and 41st sargas ; *Uttarakāṇḍa*, 52nd sarga. The *Malavāchala* hill (*Kiṣkindhyākāṇḍa*, 41st sarga), the islands or churs in the river *Kāveri* (*Ibid*) and the southern sea-coast of the Deccan (*Aranyakāṇḍa*, 35th sarga) were adorned with sandalwood forests.

⁸⁸² *Kiṣkindhyākāṇḍa*, 41st sarga.

⁸⁸³ *Aranyakāṇḍa*, 15th sarga ; *Kiṣkindhyākāṇḍa*, 1st sarga.

⁸⁸⁴ *Kiṣkindhyākāṇḍa*, 1st sarga ; *Uttarakāṇḍa*, 52nd sarga.

⁸⁸⁵ *Kiṣkindhyākāṇḍa*, 73rd sarga ; *Uttarakāṇḍa*, 52nd sarga.

⁸⁸⁶ *Kiṣkindhyākāṇḍa*, 1st sarga.

⁸⁸⁷ *Laṅkākāṇḍa*, 4th sarga ; *Kiṣkindhyākāṇḍa*, 1st sarga ; *Sundarakāṇḍa*, 14th sarga.

⁸⁸⁸ *Aranyakāṇḍa*, 15th, 60th, 75th sargas ; *Kiṣkindhyākāṇḍa*, 50th sarga ; *Sundarakāṇḍa*, 15th sarga ; *Laṅkākāṇḍa*, 4th sarga ; *Uttarakāṇḍa*, 31st and 52nd sargas.

⁸⁸⁹ *Kiṣkindhyākāṇḍa*, 1st sarga.

(16) Aśvattha⁸⁹⁰ (17) Nyagrodha⁸⁹¹ (18) Plakṣa, the waved leaf Fig tree (Ficus Infectoria)⁸⁹² (19) Śamī (Acacia Sumā or Prosopis Specigera)⁸⁹³ (20) Śiśu⁸⁹⁴ (21) Talāsa, an unidentified tree, described as the queen of trees in the Atharvaveda.⁸⁹⁵ (22) Trishtāgha which supplied fuel⁸⁹⁶ (23) Vishāṅka, an unidentified plant or tree⁸⁹⁷ (24) Putudru (Pinus Deodar), Devadāru tree⁸⁹⁸ from whose timber sacrificial posts were made⁸⁹⁹ (25) Fig tree⁹⁰⁰ (26) Kārshamārya tree (Gmelina Arborea)⁹⁰¹ from whose wood sacrificial ladles were made⁹⁰² (27) Kṛimuka,⁹⁰³ a tree unknown to European Botanists which furnished kindling sticks for sacrificial purposes.⁹⁰⁴ (28) Śālmali, silk-cotton tree⁹⁰⁵ (29) Dhava (Grislea Tomentosa)⁹⁰⁶ (30) Hāridrava⁹⁰⁷ which according to Sāyana, is Haritālā tree (31) Śleṣmātaka tree⁹⁰⁸ from whose wood sacrificial posts were made⁹⁰⁹

⁸⁹⁰ Atharvaveda, III. 6 ; IV. 37. 4 ; V. 4. 3 ; V. 5. 5 ; VI. 11. 1 ; VI. 95. 1 ; VIII. 7. 20 ; VIII. 8. 3 ; XII. 3. 1 ; XX. 131. 17, 18 ; XX. 134. 3 ; Rāmāyaṇa, Aranyakāṇḍa 13th and 72rd sargas.

⁸⁹¹ Atharvaveda, IV. 37. 4 ; V. 5. 5 ; White Yajurveda, XXIII. 16. 13 ; Black Yajurveda, III. 4. 8 ; Rāmāyaṇa, Aranyakāṇḍa, 73rd sarga.

⁸⁹² Atharvaveda V. 5. 5 ; Rāmāyaṇa, Aranyakāṇḍa, 73rd sarga ; its wood was used as sacrificial fuel (Black Yajurveda, III. 4. 8).

⁸⁹³ Atharvaveda, VI. 11. 1 ; VI. 30. 3 ; Black Yajurveda, V. 1. 9 ; V. 4. 7.

⁸⁹⁴ Atharvaveda, VI. 129. 1 ; XX. 129. 7, 8.

⁸⁹⁵ Atharvaveda, VI. 15. 3.

⁸⁹⁶ Atharvaveda, V. 29. 15 ; Kauśikasūtra, XXV. 27.

⁸⁹⁷ Atharvaveda, VI. 44. 3.

⁸⁹⁸ Atharvaveda, VIII. 2. 28 ; White Yajurveda, V. 18. 13 ; Rāmāyaṇa, Kiṣkindhyākāṇḍa, 43rd sarga.

⁸⁹⁹ Rāmāyaṇa, Bālakāṇḍa, 14th sarga ; Uttarakāṇḍa, 52nd sarga.

⁹⁰⁰ White Yajurveda, XII. 86. 79.

⁹⁰¹ White Yajurveda, XIII. 13.

⁹⁰² Griffith's White Yajurveda, p. 138 fn.

⁹⁰³ White Yajurveda, XI. 70 ; Compare Krumuka wood in Black Yajurveda, V. 1. 9.

⁹⁰⁴ Griffith's White Yajurveda, p. 117 fn.

⁹⁰⁵ White Yajurveda, XXIII. 16. 13 ; Rāmāyaṇa, Kiṣkindhyākāṇḍa, 1st sarga.

⁹⁰⁶ Atharvaveda, XX. 131. 17, 18 ; Rāmāyaṇa, Bālakāṇḍa, 24th sarga ; Ajodhyākāṇḍa, 94th sarga ; Aranyakāṇḍa, 15th and 73rd sargas ; Kiṣkindhyākāṇḍa, 1st and 50th sargas.

⁹⁰⁷ Atharvaveda, I. 22. 4 = Rigveda I. 50. 12.

⁹⁰⁸ Rāmāyaṇa, Bālakāṇḍa, 14th sarga.

⁹⁰⁹ Ibid.

- (32) Kukuva⁹¹⁰ (33) Tinduka⁹¹¹ (34) Pātala⁹¹² (35) Badarī⁹¹³ (36) Sal-laki⁹¹⁴ (37) Betasa⁹¹⁵ (38) Jambu⁹¹⁶ (39) Kiṇśuka⁹¹⁷ (40) Vallātaka⁹¹⁸ (41) Bata (Ficus Indica)⁹¹⁹ (42) Śāla⁹²⁰ (43) Marichagulma⁹²¹ (44) In-gudi⁹²² (45) Kapittha⁹²³ (46) Panasa⁹²⁴ (47) Bījapūraka⁹²⁵ (48) Asana⁹²⁶ (49) Tamāla⁹²⁷ (50) Vārunda⁹²⁸ (51) Śimśapā⁹²⁹ (52) Nibāra⁹³⁰

- ⁹¹⁰ Bālakāṇḍa, 24th sarga ; Aranyakāṇḍa, 60th sarga ; Kiṣkindhyākāṇḍa, 27th sarga.
⁹¹¹ Bālakāṇḍa, 24th sarga ; Ajodhyākāṇḍa, 94th sarga ; Aranyakāṇḍa, 73rd sarga ;
 Lankākāṇḍa, 4th sarga.
⁹¹² Bālakāṇḍa, 24th sarga ; Aranyakāṇḍa, 15th sarga ; Compare Pātali tree in
 Kiṣkindhyākāṇḍa, 1st sarga and Uttarakāṇḍa, 31st sarga.
⁹¹³ Bālakāṇḍa, 24th sarga ; Ajodhyākāṇḍa, 55th and 94th sargas.
⁹¹⁴ Ajodhyākāṇḍa, 55th sarga.
⁹¹⁵ Ajodhyākāṇḍa, 55th sarga ; Aranyakāṇḍa, 61st sarga ; Kiṣkindhyākāṇḍa, 27th sarga.
⁹¹⁶ Ajodhyākāṇḍa, 55th, 91st and 94th sargas ; Aranyakāṇḍa, 60th and 73rd sargas ;
 Kiṣkindhyākāṇḍa, 28th sarga ; Lankākāṇḍa, 4th sarga ; Uttarakāṇḍa, 52nd
 sarga.
⁹¹⁷ Ajodhyākāṇḍa, 55th, 56th and 63rd sargas ; Aranyakāṇḍa, 15th sarga ; Kiṣkindhyā-
 kāṇḍa, 1st sarga ; Lankākāṇḍa, 104th sarga.
⁹¹⁸ Ajodhyākāṇḍa, 56th sarga.
⁹¹⁹ Ajodhyākāṇḍa, 15th, 53rd, 55th sargas ; Aranyakāṇḍa, 35th sarga ; Lankākāṇḍa,
 4th sarga.
⁹²⁰ Ajodhyākāṇḍa, 71st, 72nd, 96th and 99th sargas ; Aranyakāṇḍa, 11th, 15th, 25th
 and 60th sargas ; Kiṣkindhyākāṇḍa, 27th, 40th and 50th sargas ; Sundarakāṇḍa,
 14th sarga ; Uttarakāṇḍa, 52nd sarga. There were beautiful avenues of Śāla
 trees in the city of Ajodhyā (Ajodhyākāṇḍa, 5th sarga).
⁹²¹ Aranyakāṇḍa, 35th sarga.
⁹²² Aranyakāṇḍa, 50th and 88th sargas.
⁹²³ Aranyakāṇḍa, 91st sarga.
⁹²⁴ Aranyakāṇḍa, 11th, 15th, 60th, 73rd, 91st and 94th Sargas ; Uttarakāṇḍa, 31st and
 52nd sargas.
⁹²⁵ Ajodhyākāṇḍa, 91st sarga.
⁹²⁶ Ajodhyākāṇḍa, 94th sarga.
⁹²⁷ Ajodhyākāṇḍa, 91st sarga ; Aranyakāṇḍa, 15th and 35th sargas ; Kiṣkindhyā-
 kāṇḍa, 27th, 40th and 50th sargas ; Uttarakāṇḍa, 114th sarga.
⁹²⁸ Ajodhyākāṇḍa, 71st sarga.
⁹²⁹ Ajodhyākāṇḍa, 91st sarga ; Kiṣkindhyākāṇḍa, 1st sarga ; Sundarakāṇḍa, 14th and
 18th sargas ; Lankākāṇḍa, 4th sarga.
⁹³⁰ Aranyakāṇḍa, 11th and 15th sargas,

- (53) Bindūka⁹³¹ (54) Piyāla⁹³² (55) Amkola⁹³³ (56) Tiniśa⁹³⁴
 (57) Beṇu⁹³⁵ (58) Chiribilwa⁹³⁶ (59) Tilaka⁹³⁷ (60) Nīpa⁹³⁸ (61) Bijaka⁹³⁹
 (62) Aśwakarma⁹⁴⁰ (63) Lakucha⁹⁴¹ (64) Arjuna⁹⁴² (65) Kurara⁹⁴³
 (66) Sindubāra⁹⁴⁴ (67) Karnikāra⁹⁴⁵ (68) Nīla⁹⁴⁶ (69) Agnimukhya⁹⁴⁷
 (70) Pāribhadraka⁹⁴⁸ (71) Naktamāla⁹⁴⁹ (72) Uddālaka⁹⁵⁰ (73) Kuranta⁹⁵¹
 (74) Churnaka⁹⁵² (75) Kobidāra⁹⁵³ (76) Muchukanda⁹⁵⁴ (77) Karañja⁹⁵⁵
 (78) Raktakuruvaka⁹⁵⁶ (79) Kṣīri trec⁹⁵⁷ (80) Atimukta⁹⁵⁸ (81) Pad-

⁹³¹ Aranyakāṇḍa, 11th sarga.

⁹³² Ajodhyākāṇḍa, 94th sarga ; Aranyakāṇḍa, 73rd sarga ; Uttarakāṇḍa, 31st sarga.

⁹³³ Ajodhyākāṇḍa, 94th sarga ; Kiṣkindhyākāṇḍa, 94th sarga ; Kiṣkindhyākāṇḍa, 1st sarga ; Lankākāṇḍa, 4th sarga.

⁹³⁴ Ajodhyākāṇḍa, 94th sarga ; Aranyakāṇḍa, 11th and 15th sargas ; Kiṣkindhyākāṇḍa, 1st and 27th sargas ; Lankākāṇḍa, 4th sarga ; Uttarakāṇḍa, 52nd sarga.

⁹³⁵ Ajodhyākāṇḍa, 94th sarga.

⁹³⁶ Lankākāṇḍa, 4th sarga.

⁹³⁷ Ajodhyākāṇḍa, 94th sarga ; Kiṣkindhyākāṇḍa, 27th sarga ; Lankākāṇḍa, 4th sarga.

⁹³⁸ Ajodhyākāṇḍa, 94th sarga ; Aranyakāṇḍa, 15th sarga ; Kiṣkindhyākāṇḍa, 27th sarga ; Lankākāṇḍa, 4th sarga.

⁹³⁹ Ajodhyākāṇḍa, 94th sarga.

⁹⁴⁰ Bālakāṇḍa, 24th sarga ; Aranyakāṇḍa, 15th sarga ; Sundarakāṇḍa, 56th sarga.

⁹⁴¹ Aranyakāṇḍa, 15th sarga.

⁹⁴² Aranyakāṇḍa, 60th sarga ; Kiṣkindhyākāṇḍa, 1st, 27th and 28th sargas ; Lankākāṇḍa, 4th sarga ; Uttarakāṇḍa, 31st and 52nd sargas.

⁹⁴³ Aranyakāṇḍa, 60th sarga.

⁹⁴⁴ Lankākāṇḍa, 4th sarga.

⁹⁴⁵ Aranyakāṇḍa, 73rd sarga ; Kiṣkindhyākāṇḍa, 40th and 50th sarga ; Uttarakāṇḍa, 31st sarga.

⁹⁴⁶ Kiṣkindhyākāṇḍa, 1st sarga.

⁹⁴⁷ Aranyakāṇḍa, 73rd sarga.

⁹⁴⁸ Aranyakāṇḍa, 73rd sarga.

⁹⁴⁹ Aranyakāṇḍa, 73rd sarga ; Kiṣkindhyākāṇḍa, 1st sarga.

⁹⁵⁰ Aranyakāṇḍa, 75th sarga ; Kiṣkindhyākāṇḍa, 1st and 42nd sargas ; Sundarakāṇḍa, 14th and 15th sargas.

⁹⁵¹ Kiṣkindhyākāṇḍa, 1st sarga.

⁹⁵² Kiṣkindhyākāṇḍa, 1st sarga ; Lankākāṇḍa, 4th sarga.

⁹⁵³ Kiṣkindhyākāṇḍa, 1st sarga ; Lankākāṇḍa, 4th sarga ; Uttarakāṇḍa, 52nd sarga.

⁹⁵⁴ Kiṣkindhyākāṇḍa, 1st sarga.

⁹⁵⁵ Lankākāṇḍa, 4th sarga.

⁹⁵⁷ Kiṣkindhyākāṇḍa, 26th sarga.

⁹⁵⁶ Kiṣkindhyākāṇḍa, 1st sarga.

⁹⁵⁸ Kiṣkindhyākāṇḍa, 27th sarga.

ma⁹⁵⁹ (82) Sarjja⁹⁶⁰ (83) Sarala, Indian pine tree⁹⁶¹ (84) Bānira⁹⁶² (85) Timida⁹⁶³ (86) Kṛitamāla⁹⁶⁴ (87) Saptaparna⁹⁶⁵ (88) Bañjula⁹⁶⁶ (89) Vabya⁹⁶⁷ (90) Rañjaka⁹⁶⁸ (91) Muchulinda⁹⁶⁹ (92) Pātalika⁹⁷⁰ (93) Kūtajā⁹⁷¹ (94) Hintila⁹⁷² (95) Līlāsoka⁹⁷³ (96) Priyangu⁹⁷⁴ (97) Tungaka⁹⁷⁵ and (98) Khadira⁹⁷⁶ (*Acacia Catechu*) from whose timber four-cornered sacrificial cups,⁹⁷⁷ thrones,⁹⁷⁸ sacrificial posts⁹⁷⁹ and dipping spoons⁹⁸⁰ were made.

From the Rāmāyaṇa we learn that the art of gardening was known and practised in those days. The trees, flower-plants and fruit-trees were planted in the Aśoka forest, the royal pleasure-garden of Lankā by experts (in horticulture).⁹⁸¹ The garden was furnished with tanks having rows of trees planted on their banks with pleasure-houses, beautiful groves and

⁹⁵⁹ Kiṣkindhyākāṇḍa, 27th and 43rd sarga; Lankākāṇḍa, 4th sarga.

⁹⁶⁰ Kiṣkindhyākāṇḍa, 28th sarga.

⁹⁶¹ Kiṣkindhyākāṇḍa, 27th sarga; Lankākāṇḍa, 4th sarga.

⁹⁶² Kiṣkindhyākāṇḍa, 27th sarga.

⁹⁶³ Kiṣkindhyākāṇḍa, 27th sarga.

⁹⁶⁴ Kiṣkindhyākāṇḍa, 27th sarga.

⁹⁶⁵ Kiṣkindhyākāṇḍa, 30th sarga; Sundarakāṇḍa, 15th sarga; Uttarakāṇḍa, 52nd sarga.

⁹⁶⁶ Kiṣkindhyākāṇḍa, 50th sarga.

⁹⁶⁷ Sundarakāṇḍa, 14th sarga.

⁹⁶⁸ Lankākāṇḍa, 4th sarga.

⁹⁶⁹ Lankākāṇḍa, 4th sarga.

⁹⁷⁰ Lankākāṇḍa, 4th sarga.

⁹⁷¹ Lankākāṇḍa, 4th sarga.

⁹⁷² Kiṣkindhyākāṇḍa, 1st and 27th sargas; Lankākāṇḍa, 4th sarga.

⁹⁷³ Lankākāṇḍa, 4th sarga.

⁹⁷⁴ Uttarakāṇḍa, 31st and 52nd sarga.

⁹⁷⁵ Uttarakāṇḍa 52nd sarga.

⁹⁷⁶ Atharvaveda, III. 6. 1; V. 5. 5; VIII. 8. 3; X. 6. 7; XII. 3. 1; XX. 131. 17, 18; White Yajurveda, V. 42; VIII. 33; X. 26; Black Yajurveda, III. 5. 7. 1; Rāmāyaṇa, Lālākāṇḍa, 14th sarga; Araṇya-kāṇḍa, 15th sarga.

⁹⁷⁷ White Yajurveda, VIII. 33.

⁹⁷⁸ White Yajurveda, X. 26.

⁹⁷⁹ Rāmāyaṇa, Lālākāṇḍa, 14th sarga.

⁹⁸⁰ Black Yajurveda, III. 5. 7. 1.

⁹⁸¹ Rāmāyaṇa, Uttarakāṇḍa, 52nd sarga.

raised seats here and there.⁹⁸² The following flower plants and trees are mentioned in this period :—(1) Aśoka⁹⁸³ (2) Ketaka⁹⁸⁴ (3) Champaka⁹⁸⁵ (4) Bakula⁹⁸⁶ (5) Raktotpala⁹⁸⁷ (6) Kadaṃba⁹⁸⁸ (7) Mālātī⁹⁸⁹ (8) Mallikā⁹⁹⁰ (9) Padma⁹⁹¹ (10) Karavīra⁹⁹² (11) Sindubāra⁹⁹³ (12) Bāsanti⁹⁹⁴ (13) Matulinga⁹⁹⁵ (14) Pūrṇa⁹⁹⁶ (15) Chirabilva⁹⁹⁷ (16) Kunda⁹⁹⁸ (17) Pīrijīta⁹⁹⁹ (18) Aguru¹⁰⁰⁰ (19) Kālīguru¹⁰⁰¹ (20) Tagara¹⁰⁰² (21) Mandāra¹⁰⁰³ (22) Mādhavi¹⁰⁰⁴ (23) Bañjula¹⁰⁰⁵ (24) Bakula¹⁰⁰⁶ (25) Gagapūspī¹⁰⁰⁷ (26) Śrīṣa¹⁰⁰⁸ (27) Nilajhiptī¹⁰⁰⁹

⁹⁸² Ibid.

⁹⁸³ Ajodhyākāṇḍa, 10th sarga; Aranyakāṇḍa, 15th, 60th, 71st and 75th sargas; Kiṣkindhyākāṇḍa, 1st and 27th sargas; Sundarakāṇḍa, 14th sarga; etc.

⁹⁸⁴ Aranyakāṇḍa, 15th and 60th sargas; Kiṣkindhyākāṇḍa, 1st and 27th sargas; Lankākāṇḍa, 4th sarga; Uttarakāṇḍa, 31st sarga.

⁹⁸⁵ Ajodhyākāṇḍa, 10th sarga; Aranyakāṇḍa, 15th sarga; Sundarakāṇḍa, 14th and 15th sargas; Kiṣkindhyākāṇḍa, 1st and 50th sargas; Lankākāṇḍa, 4th sarga; Uttarakāṇḍa, 31st sarga.

⁹⁸⁶ Aranyakāṇḍa, 6th sarga.

⁹⁸⁷ Kiṣkindhyākāṇḍa, 1st sarga.

⁹⁸⁸ Aranyakāṇḍa, 60th and 73rd sargas; Kiṣkindhyākāṇḍa, 27th sarga; Uttarakāṇḍa, 31st and 52nd sargas.

⁹⁸⁹ Kiṣkindhyākāṇḍa, 1st and 27th sargas,

⁹⁹⁰ Kiṣkindhyākāṇḍa, 1st sarga.

⁹⁹¹ White Yajurveda, II. 33; Compare Ibid., XI. 32; XXI. 31; Rāmāyaṇa, Kiṣkindhyākāṇḍa, 1st sarga.

⁹⁹² Aranyakāṇḍa, 73rd sarga; Kiṣkindhyākāṇḍa, 1st sarga; Lankākāṇḍa, 4th sarga.

⁹⁹³ Kiṣkindhyākāṇḍa, 1st and 27th sargas; Lankākāṇḍa, 4th sarga.

⁹⁹⁴ Kiṣkindhyākāṇḍa, 1st sarga; Lankākāṇḍa, 4th sarga.

⁹⁹⁵ Kiṣkindhyākāṇḍa, 1st sarga.

⁹⁹⁶ Ibid.

⁹⁹⁷ Ibid.

⁹⁹⁸ Kiṣkindhyākāṇḍa, 1st and 27th sargas; Lankākāṇḍa, 4th sarga.

⁹⁹⁹ Uttarakāṇḍa, 52nd sarga.

¹⁰⁰⁰ Uttarakāṇḍa, 52nd sarga. The southern Sea-coast of the Deccan was adorned with aguru forests (Aranyakāṇḍa, 35th sarga).

¹⁰⁰¹ Uttarakāṇḍa, 52nd sarga.

¹⁰⁰² Uttarakāṇḍa, 31st and 52nd sargas.

¹⁰⁰³ Uttarakāṇḍa, 31st sarga.

¹⁰⁰⁴ Lankākāṇḍa, 4th sarga.

¹⁰⁰⁵ Kiṣkindhyākāṇḍa, 1st and 50th sargas; Lankākāṇḍa, 4th sarga.

¹⁰⁰⁶ Kiṣkindhyākāṇḍa, 1st, 27th and 42nd sargas; Lankākāṇḍa, 4th sarga; Uttarakāṇḍa, 31st, 52nd and 114th sargas.

¹⁰⁰⁷ Kiṣkindhyākāṇḍa, 12th and 14th sargas.

¹⁰⁰⁸ Kiṣkindhyākāṇḍa, 1st and 27th sargas.

¹⁰⁰⁹ Kiṣkindhyākāṇḍa, 30th sarga.

(28) Jivaka¹⁰¹⁰ (29) Nilotpala¹⁰¹¹ (30) Lodhra¹⁰¹² (31) Amūla (Menthonica Superba),¹⁰¹³ a species of lily (32) Kandala.¹⁰¹⁴

The following fruit trees were known in this period :—(1) Mango¹⁰¹⁵ (2) Takkola¹⁰¹⁶ (3) Dārimba,¹⁰¹⁷ pomegranate (4) Cocanut¹⁰¹⁸ (5) Date-palm (kharjura)¹⁰¹⁹ (6) Āmalaki¹⁰²⁰ (7) Tala¹⁰²¹ (8) Kadali plant (plantain tree)¹⁰²² and Bilva (Bel tree) [already referred to].

Among the herbs and plants are mentioned (1) Ābayu,¹⁰²³ a plant poisonous in its natural condition but medicinal when cooked and properly prepared.¹⁰²⁴ (2) Āndikam, a plant with eggshaped fruits or

¹⁰¹⁰ Ibid.

¹⁰¹¹ Kiṣkindhyākāṇḍa, 1st sarga.

¹⁰¹² Kiṣkindhyākāṇḍa, 1st and 43rd sargas ; Uttarakāṇḍa, 31st and 52nd sargas.

¹⁰¹³ Atharvaveda, V. 31. 4.

¹⁰¹⁴ Rāmāyaṇa, Kiṣkindhyākāṇḍa, 28th sarga.

¹⁰¹⁵ Brhadāranyaka Upaniṣad, Adhyāya IV. Brāhmaṇa III. verse 36 ; Rāmāyaṇa, Ajodhyākāṇḍa, 63rd, 91st and 94th sargas ; Aranyakāṇḍa, 15th and 73rd sargas ; Kiṣkindhyākāṇḍa 1st sarga ; Lankākāṇḍa, 4th sarga ; Uttarakāṇḍa, 31st and 52nd sargas. The kingdom of Kośala was adorned with many mango-gardens (Ajodhyākāṇḍa, 50th sarga). The City of Ajodhyā also had many mango-gardens (Ajodhyākāṇḍa, 5th sarga).

¹⁰¹⁶ Rāmāyaṇa, Aranyakāṇḍa, 35th sarga.

¹⁰¹⁷ Aranyakāṇḍa, 60th sarga ; Uttarakāṇḍa, 52nd sarga.

¹⁰¹⁸ Uttarakāṇḍa, 31st sarga ; The southern sea-coast of the Deccan was adorned with groves of cocoanut trees (Aranyakāṇḍa, 35th sarga).

¹⁰¹⁹ Ibid., Aranyakāṇḍa, 15th sarga.

¹⁰²⁰ Ibid., Ajodhyākāṇḍa, 91st sarga ; Ibid., 94th sarga.

¹⁰²¹ Ibid., Ajodhyākāṇḍa, 91st sarga and 99th sarga ; Aranyakāṇḍa 15th sarga, 35th and 60th sargas ; Kiṣkindhyākāṇḍa, 11th, 12th, 40th and 50th sargas ; Uttarakāṇḍa 114th sarga. The poet Vālmiki compares the breasts of Sītā to the large tāla fruit (Aranyakāṇḍa, 46th sarga).

¹⁰²² Ibid., Kiṣkindhyākāṇḍa, 13th sarga. The hermitages of Agastya on the Godāvari (Lankākāṇḍa, 125th sarga) and of Rāma in the Pañchbaṭi forest (Aranyakāṇḍa, 35th and 42nd sargas) were adorned with groves of plantain tree ; Maitrāyaṇa-Brāhmaṇa—Upaniṣad, 4th Prapātaka, verse 2.

¹⁰²³ Atharvaveda, VI. 16. 1.

¹⁰²⁴ Griffith's Atharvaveda, Vol. I. p. 253 fn.

bulbs¹⁰²⁵ (3) Apāmarga¹⁰²⁶ (from mṛija, to cleanse or wipe, with apa+ṛ) Achyranthes Aspera, a biennial plant frequently used in incantations, in medicine, in washing linen, and in sacrifices, and still believed to have the power of making men proof against the stings of scorpions. It is called also parākpūṣpī, pratyakpūṣpī and pratyakparṇī from the reverted direction of the growth of its leaves, flowers and fruits¹⁰²⁷ (4) Aukshagandhi¹⁰²⁸ (5) Guggulu¹⁰²⁹ (Borassus Flabelliformis) from which a costly fragrant gum exudes. (6) Jañgiḍa¹⁰³⁰ a plant frequently mentioned in the Atharvaveda as a charm against demons and a specific for various diseases. It appears to have been cultivated¹⁰³¹ (7) Naladi¹⁰³² 8) N r̥chi¹⁰³³ (9) Pili¹⁰³⁴ (10) Pātā, probably identical with Pāthā (Clypea Hernandifolia).¹⁰³⁵ Like the Scottish rowan or like St. John's wort it was potent against fiends. (11) Baja,¹⁰³⁶ apparently some strong-smelling herb (Atharvaveda, VIII. 6. 10) by whose scent the demon is chased away as was Asmodeus by 'the fishy fume that drove him, though enamoured, from the spouse of Tobit's son' (Paradise Lost, IV. 168) (12) Pinga¹⁰³⁷ (13) Pramandini¹⁰³⁸ (14) Priṣniparṇī¹⁰³⁹ having variegated leaves) Hemionit's Cordifolia, a medicinal plant, a decoction of which is recommended by Susruta to be taken as a preventive against abortion. (15) Ajaśringī,¹⁰⁴⁰ literally goat's horn, Odina Pinnata, a plant used in incantation. (16) Avakī,¹⁰⁴¹ Blyxa

¹⁰²⁵ Atharvaveda, IV. 34. 5 ; Compare Ibid., 17. 16.

¹⁰²⁶ Ibid., IV. 17. 6 ; IV. 18. 7, 8 ; IV. 19. 1, 4 ; XIX. 20. 3 ; White Yajurveda, XXXV. 11 ; IX. 38.

¹⁰²⁷ See Atharvaveda IV. 19. 4, 7 ; VI. 129. 3 and VII. 65. 1.

¹⁰²⁸ Atharvaveda, IV. 37. 3.

¹⁰²⁹ Ibid., II. 36. 7 ; IV. 37. 3 ; XIX. 38. 1, 2 ; Compare White Yajurveda V. 13.

¹⁰³⁰ Atharvaveda II. 4. 2, 4, 5 ; XIX. 34 ; XIX. 35.

¹⁰³¹ Ibid., II. 4. 5. ('Sprung from the saps of husbandry').

¹⁰³² Ibid., IV. 37. 3. "Smelling of spikenard."

¹⁰³³ Ibid., V. 31. 4.

¹⁰³⁴ Ibid., IV. 37. 3.

¹⁰³⁵ Ibid., II. 27. 4 ; IV. 19. 4.

¹⁰³⁶ Atharvaveda, VIII. 6. 3 ; VIII. 6. 24.

¹⁰³⁷ Ibid., VIII. 6. 18 ; VIII. 6. 24.

¹⁰³⁸ Ibid., IV. 37. 3.

¹⁰³⁹ Ibid., II. 25. 1.

¹⁰⁴⁰ Ibid., IV. 37. 2, 3.

¹⁰⁴¹ Ibid., IV. 37. 8 ; VIII. 7. 9 ; cf. Ibid., III. 13. 7 ; VI. 12. 3 ; White Yajurveda, XXV. 1 ; Compare Ibid., XIII. 30 ; XVII. 4 ; Kaṇḍikāśūtra, XL. 3-6.

Octandra, a water plant called Śaivāla in later times (17) Sālūḍa¹⁰⁴² (19) Sappaka,¹⁰⁴³ an aquatic plant (19) Mulālin,¹⁰⁴⁴ an aquatic plant (20) Sāmā¹⁰⁴⁵ (21) Silāchi¹⁰⁴⁶ more usually called Arundhati¹⁰⁴⁷; a medicinal climbing plant formerly applied in cases of severe contusion or fracture¹⁰⁴⁸ (22) Śipudru,¹⁰⁴⁹ an unknown plant or tree, a magic cure for consumption.¹⁰⁵⁰ (23) Vihalha,¹⁰⁵¹ an unidentified plant (24) Madāvati,¹⁰⁵² an unidentified plant (25) Tauvilikā,¹⁰⁵³ some kind of plant or animal (26) Varāṇa,¹⁰⁵⁴ Crataeva Roxburghii, a plant used in medicine and supposed to possess magical powers. It grew abundantly on the banks of the river Varāṇavati. This Varāṇa healeth all diseases¹⁰⁵⁵ (27) Vishā,¹⁰⁵⁶ some unknown herb (28) Vishātaki,¹⁰⁵⁷ some unknown herb (29) Vishānakā¹⁰⁵⁸ some unknown plant or tree (30) Kuṣṭha,¹⁰⁵⁹ Costus Speciosus or Arabicus, a medicinal plant, grown on the snowy mountains, a banisher of fever.¹⁰⁶⁰ (31) Jīvālā, Jivala,¹⁰⁶¹ two species of plants (32) Nagnahū¹⁰⁶² was a root used as yeast, for fermenting the surā¹⁰⁶³ (33) Pātikā or Putika,¹⁰⁶⁴ a plant used to expedite the curdling of the sacrificial milk¹⁰⁶⁵ and as substitutes for Soma plant; a kind of grass according to Mahidhara

¹⁰⁴² Atharvaveda, VIII. 6. 17.

¹⁰⁴³ Ibid., IV. 34. 5

¹⁰⁴⁴ Ibid.

¹⁰⁴⁵ Ibid., I. 24. 4. Instead of Sāmā the Paippalāda recension reads Śyāmā (the dusky) with which compare Atharvaveda I. 23. 1; so also Śankara Pandit according to two Mss. Observe also Sāmākā = Śyāmākā in Kauśikasutra VIII. 1. Śyāmā is the name of various plants (See St. Petersburg Dictionary, s. v.).

¹⁰⁴⁶ Atharvaveda, V. 5. 1.

¹⁰⁴⁷ Ibid., V. 5. 5; IV. 12. 1; VI. 59. 1; IX. 38. 1.

¹⁰⁴⁸ Ibid., IV. 12. 1.

¹⁰⁴⁹ Ibid., VI. 127. 2.

¹⁰⁵⁰ Ibid., VI. 127. 2.

¹⁰⁵¹ Ibid., VI. 16. 2.

¹⁰⁵² Ibid., VI. 16. 2.

¹⁰⁵³ Ibid., VI. 16. 3.

¹⁰⁵⁴ Ibid., IV. 7. 1; VI. 85. 1; X. 3.

¹⁰⁵⁵ Ibid., X. 3. 3.

¹⁰⁵⁶ Ibid., VII. 113. 2.

¹⁰⁵⁷ Ibid., VII. 113. 2.

¹⁰⁵⁸ Ibid., VI. 44. 3.

¹⁰⁵⁹ Atharvaveda, XIX. 39. 1; V. 4. 1; V. 22. 2; VI. 95; VI. 10.

¹⁰⁶⁰ Ibid., V. 4. 1—2.

¹⁰⁶¹ Ibid., XI.

¹⁰⁶² White Yajurveda, XIX. 14; XX. 57; XXI. 31.

¹⁰⁶³ Atharvaveda, XIX. 83.

¹⁰⁶⁴ White Yajurveda, XXXVII. 6.

¹⁰⁶⁵ Black Yajurveda, II. 5. 3.

(34) Śana (*Cannabis Sativa*¹⁰⁶⁶) or Bhangā=Bhāṅg,¹⁰⁶⁷ a plant from which an intoxicating drug is prepared.

The following varieties of grass and reeds are mentioned :—
 (1) Darbha,¹⁰⁶⁸ a grass used for sacrificial purposes. It spreads rapidly and continually re-roots itself and hence described in the Atharvaveda as 'having a thousand joint.'¹⁰⁶⁹ The strainer of Soma juice was made of two or three blades of Darbha grass.¹⁰⁷⁰ Girdle or girth with which the sacrificial horse was to be girded was made of Darbha grass.¹⁰⁷¹ (2) Durvā (*Panicum Dactylon*),¹⁰⁷² a creeping grass with flowering branches erect ; by far the common and most useful grass in India. It grows everywhere abundantly, and flowers all the year. (3) Kuśa (*Poa Cynosuroides*),¹⁰⁷³ much used in sacrificial ceremonies and endowed with various sanctifying qualities. It is strewn on the place of sacrifice, specially on the altar, and forming a layer on which the offerings are placed, and a seat for the sacrificers and the gods who are present at the ceremony (4) Muñja (*Saccharum Munja*),¹⁰⁷⁴ a sort of rush or grass which grows to the height of about ten feet. It is used in basket-work, and the makhaiā or girdle worn by the Brāhmaṇas is made from it. It appears from the Kauśikasutra XXV. 6, and Dārila's Commentary thereon, that the head of a stalk of Muñja grass, is to be tied with a cord, then, perhaps, to be suspended from the neck of the patient or to be otherwise attached to his body. Thus worn the grass will prevent diarrhoea in an acute form. Small round mats were made of Muñja grass and used for ceremonial purposes.¹⁰⁷⁵ (5) Śara (*Saccharum*

¹⁰⁶⁶ Atharvaveda, II. 4. 5.

¹⁰⁶⁷ Ibid., XI. 6. 15.

¹⁰⁶⁸ Atharvaveda, II. 73 ; VI. 43. 1, 2 ; VIII. 7. 20 ; X. 4. 2 ; X. 4. 13 ; XI. 6. 15 ; XIX. 28 ; XIX. 32 ; XIX. 68 ; White Yajurveda, V. 6. 21, 25 ; XVIII. 75. 63 ; Black Yajurveda, V. 6. 4.

¹⁰⁶⁹ Atharvaveda, II. 7. 3.

¹⁰⁷⁰ White Yajurveda, I. 9. 3 ; X. 34. 31.

¹⁰⁷¹ Ibid., XXII. 1—2.

¹⁰⁷² Atharvaveda, VI. 106. 1 ; White Yajurveda, XIII. 24. 20.

¹⁰⁷³ Atharvaveda, II. 7. 1 ; XX. 131. 9 ; White Yajurveda, IV. 1 ; V. 42.

¹⁰⁷⁴ Atharvaveda I. 2. 4 ; Compare White Yajurveda, IV. 17. 10 ; XI. 68.

¹⁰⁷⁵ White Yajurveda, XII. 2.

Sara),¹⁰⁷⁶ a reed of which arrows were made.¹⁰⁷⁷ (6) Babbaja¹⁰⁷⁸ (7) Kāśa¹⁰⁷⁹ (8) Iṣikā.¹⁰⁸⁰

Sheep and Cattle-rearing—Despite the great development of agriculture cattle remained the principal wealth of the people. In the Śatapatha Brāhmaṇa in connection with the Royal Coronation the raid of cattle is mentioned, a relic no doubt of older days customs. In the Atharvaveda we find innumerable prayers for the increase of cattle. Thus, we have a benediction on homeward cattle,¹⁰⁸¹ a charm against worms or bots in cows,¹⁰⁸² a benediction on cattle-pen,¹⁰⁸³ glorification and benediction of cows,¹⁰⁸⁴ a charm for the increase of cattle,¹⁰⁸⁵ a charm to protect cattle,¹⁰⁸⁶ a benediction on cattle-calf,¹⁰⁸⁷ a charm to bring the cattle home,¹⁰⁸⁸ a blessing on cows,¹⁰⁸⁹ a glorification of the typical bull and cow,¹⁰⁹⁰ a glorification of the sacred cow,¹⁰⁹¹ on the duty of giving cows to Brāhmaṇas.¹⁰⁹²

The twenty-fourth book of the White Yajurveda contains an exact enumeration of the animals that are to be tied to the sacrificial stakes and in the intermediate spaces, with the names of the deities or deified entities to which they are severally dedicated. The principal stake, the eleventh and midmost of the twenty-one, called the Agniṣṭha because it stands nearest to the sacrificial fire, is mentioned first. About fifteen victims are bound to each of these stakes, all domestic animals, the total number being 327. In the spaces between the stakes 282 wild animals are temporarily confined, to be freed when the ceremony is concluded, bringing the total number of assembled animals upto 609. "There is perhaps some exaggeration in the number" says Mr. Griffith,¹⁰⁹³

¹⁰⁷⁶ Atharvaveda, I. 2. 3 ; Rāmāyaṇa, Ajoḍhyākāṇḍa, 30th sarga.

¹⁰⁷⁷ Black Yajurveda, VI. 1. 3. (Compare, Vedic Index, II. 357.)

¹⁰⁷⁸ Black Yajurveda, II. 2. 8.

¹⁰⁷⁹ Rāmāyaṇa, Ajoḍhyākāṇḍa, 30th sarga.

¹⁰⁸⁰ Ibid.

¹⁰⁸¹ Atharvaveda, II. 26.

¹⁰⁸² Ibid., II. 32.

¹⁰⁸³ Ibid., III. 14.

¹⁰⁸⁴ Ibid., IV. 21.

¹⁰⁸⁵ Ibid., V. 16.

¹⁰⁸⁶ Ibid., VI. 59.

¹⁰⁸⁷ Ibid., VI. 70.

¹⁰⁸⁸ Ibid., VI. 77.

¹⁰⁸⁹ Ibid., VII. 75.

¹⁰⁹⁰ Ibid., IX. 7.

¹⁰⁹¹ Ibid., X. 10.

¹⁰⁹² Ibid., XII. 4.

¹⁰⁹³ White Yajurveda, p. 258 fn.

"and some almost impossible animals are mentioned, but it must be remembered that the Aśwamedha was a most important tribal solemnity of rare occurrence and that no effort should be spared to assure its performance with all possible splendour." The Taittiriya Brāhmaṇa¹⁰⁹⁴ in its account of the Aśwamedha recommends 180 domestic animals to be sacrificed.

Among the domestic animals the following are the most important :—
 (1) *cow*—The food-value of its milk was very great. The Śatapatha Brāhmaṇa¹⁰⁹⁵ describes the various articles of food prepared from cow's milk. From the Panchaviṃṣa Brāhmaṇa¹⁰⁹⁶ we learn that bags were made from cow-hide for holding milk, wine and other liquids. The flesh was also used as food. In the Taittiriya Brāhmaṇa¹⁰⁹⁷ mention is made of scores of Kāmya Iṣtis or minor sacrifices with prayers which required beef for their performance. In the larger ceremonies, such as the Rājasūya, the Vājapeya, and the Aśwamedha, the slaughter of the cow was an invariable accompaniment.¹⁰⁹⁸ The Taittiriya Brāhmaṇa¹⁰⁹⁹ recommends the slaughter of cows, bulls, nilagaos etc. for the Aśwamedha ceremony. It also recommends the slaughter of seventeen five-year old, humpless dwarf bulls and as many dwarf heifers under three years for the Pañchaśāradya ceremony.¹¹⁰⁰ The Tānda Brāhmaṇa of the Sāma Veda¹¹⁰¹ recommends the slaughter of cattle of a different colour for each successive year. The Atharvaveda gives us a prayer accompanying animal sacrifice¹¹⁰² and tells us that the dissectors of the sacrificial bull are to call out the names of the several parts of the carcase as they divide them, each portion being assigned to a separate divinity.¹¹⁰³ The Taittiriya Brāhmaṇa describes in detail the

¹⁰⁹⁴ aśityadhikaśatasapṅkhyakāḥ paśava ālabadhyāḥ — Taittiriya Brāhmaṇa, II. p. 651.

¹⁰⁹⁵ III. 3. 3.

¹⁰⁹⁶ XIV. 11. 26 ; XVI. 13. 13.

¹⁰⁹⁷ III. ch. VIII.

¹⁰⁹⁸ Taittiriya Brāhmaṇa, III. p. 658. Yathā goup arāṇye swachchandaachārī, ebamayaṃ brahmalokopi swatanthro bhabati — Taittiriya Āraṇyaka.

¹⁰⁹⁹ II. p. 651.

¹¹⁰⁰ Taittiriya Brāhmaṇa, Book II.

¹¹⁰¹ Tānda Brāhmaṇa, 643 :— śaṣṭyāḥ śaradi kārṭtike māsi Yajet. Saptamyāmaṣṭamyām bāśwayujīpakṣe tu batsatarīrevālaveran ukṣṇo bisṛgeyuh.

¹¹⁰² Atharvaveda, II. 34.

¹¹⁰³ Ibid., IX. 4. 11—14.

mode of cutting up the victim after immolation, evidently for distribution.* The Gopatha Brāhmaṇa ‡ of the Atharvaveda gives in detail the names of the different individuals (like the Hotā, the Udgātā, the Adhvaryu, the Upagātā, the householder who ordains the sacrifice, the wife of the latter etc.) who are to receive the thirty-six shares into which the carcase is to be divided. Directions similar to these occur also in the Aitareya Brāhmaṇa. The Śatapatha Brāhmaṇa¹¹⁰⁴ and the Taittirīya Brāhmaṇa¹¹⁰⁵ describes Yajñavalkya and Agastya as taking beef. Yajñavalkya was "wont to eat the meat of milch-cows and bullocks, if only it was tender."¹¹⁰⁶ In the Aitareya Brāhmaṇa¹¹⁰⁷ we are told that when a king or a distinguished person comes as a guest one should kill a Vekat (old barren cow) for his entertainment. The great sage Yajñavalkya expresses a similar view¹¹⁰⁸ At the same time we notice a growing feeling against beef-eating in this period. In the Śatapatha Brāhmaṇa¹¹⁰⁹ we have a long discourse on the non-advisibility of cow-slaughter and we find the injunction "Let him not eat the flesh of the cow or the ox for, the cow and the ox doubtless support everything on earth."

The cow was used as a standard of value in purchasing articles even in this period.¹¹¹⁰ Moreover, bullocks were used for ploughing,¹¹¹¹ for drawing waggons¹¹¹² and carriages¹¹¹³ and for carrying loads.¹¹¹⁴

(2) *The buffalo*.—In addition to its milk, the flesh of the buffalo was probably eaten. The Taittirīya Brāhmaṇa¹¹¹⁵ recommends the slaughter of buffaloes for the Aśwamedha sacrifice; so also the White Yajurveda.¹¹¹⁶

* Daivyāḥ śamitāraḥ uta manusyā āravadhwaṃ. Upanayata medhyā durāḥ. Aśāsānāmedhapativyāṃ medhaṃ, etc.

† Gyathātaḥ sabanīyasya paśorbibhāgaṃ byākhyāsyāraḥ etc.

¹¹⁰⁴ III. 1. 2. 21.

¹¹⁰⁵ II. 7. 11. 1.

¹¹⁰⁶ III. 1. 2. 21 = Vedic Index, II. 145.

¹¹⁰⁷ I. 3. 4.

¹¹⁰⁸ Vaj. I. 109.

¹¹⁰⁹ III. 1. 2. 3.

¹¹¹⁰ Black Yajurveda, VI. 1. 6.

¹¹¹¹ Black Yajurveda, V. 2. 5. 2.

¹¹¹² Ibid., V. 6. 21.

¹¹¹³ Ibid., V. 6. 21.

¹¹¹⁴ White Yajurveda, XXIV. 13.

¹¹¹⁵ Books II and III.

¹¹¹⁶ Book XXIV. 28.

The dung of buffaloes was used as fuel for protection against cold.¹¹¹⁷ (3) *The horse*—Horses were used in battle¹¹¹⁸ and in horse—racing.¹¹¹⁹ From the Rāmāyaṇa¹¹²⁰ we learn that Kamboja, Bahllika and Sind were famous for horses. Horses were sometimes given to priests as a sacrificial fee.¹¹²¹ (4) *The donkey*—In addition to the horse, the donkey was also used for drawing chariots and waggon and for carrying loads. The story of the race won by the Aświns with a chariot drawn by donkeys is found in the Aitareya Brāhmaṇa.¹¹²² (5) *Mules*—The hardiness of mules is praised and their sterility dwelt upon and explained in some of the Brāhmaṇas. They were mainly used for drawing cars,¹¹²³ and waggon and carrying loads. (6) *The camel*—Camels were objects of gift¹¹²⁴ and of sacrifice.¹¹²⁵ In the Atharvaveda¹¹²⁶ we read of “camels that draw the car.” (7) *The goat*—It was an object of sacrifice in the Aśwamedha,¹¹²⁷ to Indra¹¹²⁸ to the Aświns,¹¹²⁹ to Puṣan,¹¹³⁰ and to Vāyu.¹¹³¹ Its flesh was used as food,¹¹³² milk as drink¹¹³³ and skin as clothing.¹¹³⁴ (8) *Sheep*—The flesh of sheep was used as food,¹¹³⁵ milk as drink and wool as a material for cloth. In the Atharvaveda kambalas¹¹³⁶ and Śāmulyas¹¹³⁷ are described as ordinary outfits of men and women and were probably made of

¹¹¹⁷ Rāmāyaṇa, Ajodhyākāṇḍa, 99th sarga.

¹¹¹⁸ White Yajurveda, XXIX. 38—39.

¹¹¹⁹ Atharvaveda, II. 14. 6.

¹¹²⁰ Bāla-kāṇḍa, 6th sarga.

¹¹²¹ White Yajurveda, VII. 47.

¹¹²² IV. 9.

¹¹²³ Atharvaveda, VIII. 8. 22.

¹¹²⁴ Ibid., XX. 127. 1—2.

¹¹²⁵ White Yajurveda, XXIV. 28 and 29 ; Black Yajurveda, V. 6. 21.

¹¹²⁶ XX. 127. 2.

¹¹²⁷ White Yajurveda, XXIV. 16, 32.

¹¹²⁸ Ibid., XXVIII. 23.

¹¹²⁹ Ibid., XXI. 40, 41, 46, 47, 59.

¹¹³⁰ Ibid., XXVIII. 23, 27.

¹¹³¹ Griffith's White Yajurveda, p. 281 fu.

¹¹³² Atharvaveda, IX. 5. 4.

¹¹³³ “The milk of goat is the highest form of draught”—Black Yajurveda, V. 1. 7.

¹¹³⁴ Śatapatha Brāhmaṇa, III. 9. 1. 12 ; V. 2. 1. 21, 24 ; Pañchaviṃśa Brāhmaṇa, XVII. 14—16 ; cf. Atharvaveda, IV. 7. 6.

¹¹³⁵ Rāmāyaṇa, Aranyakāṇḍa, 11th sarga.

¹¹³⁶ XIV. 2. 66, 67.

¹¹³⁷ XIV. 1. 25 = Rigveda, X. 85. 29.

sheep's wool. Cloths made of āvika, sheep's wool are clearly mentioned in the Rāmāyaṇa.¹¹³⁸ Acceptance of sheep has been described as having bad effects in the Black Yajurveda.¹¹³⁹ The sheep seems to have been used in drawing the plough, though the commentator takes sheep to mean 'small oxen like sheep'.¹¹⁴⁰ (9) *The ass*—The ass has been described as "the best burden-gatherer of animals."¹¹⁴¹ They are also described as drawing the car of the Aświns.¹¹⁴² (10) *Swine*—The Śatapatha Brāhmaṇa describes the origin of the boar and refers to its fat and the sandals made of its skin.¹¹⁴³ The Atharvaveda¹¹⁴⁴ refers to its extraordinary quickness at discovering and unearthing all sorts of edible roots. The boar was an object of sacrifice to Indra.¹¹⁴⁵ (11) *Elephants*—Elephant-keepers are mentioned in the White Yajurveda.¹¹⁴⁶ There is a hymn in the Atharvaveda¹¹⁴⁷ whose subject is the taming of elephants and of training them up for the king to ride. From the Rāmāyaṇa¹¹⁴⁸ we learn that the elephants of the Hīmalayan and Vindhyan regions were famous for their large size and great length. Hides of elephants are also mentioned.¹¹⁴⁹

Hunting and Fishing—Hunting remained the occupation of a large section of the people.¹¹⁵⁰ No doubt the forest tribes resorted to hunting mainly for obtaining food but the people in general as well would resort to hunting not only for the pleasure and excitement which it afforded but also on economic grounds, as the frequent slaughter of domestic animals would reduce the livestock before long. Hunting down wild beasts was also necessary for the protection of cattle. The wild dog was tamed mainly for the purpose of assisting the people in the hunt.

¹¹³⁸ Rāmāyaṇa, Lankākāṇḍa, 75th sarga.

¹¹³⁹ II. 2. 6. 3 : 'the nature of the sheep he accepts who accepts a sheep'.

¹¹⁴⁰ Black Yajurveda, V. 6. 21.

¹¹⁴¹ Ibid., V. 1. 5. 5.

¹¹⁴² White Yajurveda, XI. 13 ; XXV. 44.

¹¹⁴³ V. 4. 3. 19.

¹¹⁴⁴ II. 27. 2 ; V. 14. 1 ; VIII. 7. 23.

¹¹⁴⁵ White Yajurveda, XXIV. 40.

¹¹⁴⁶ XXX. 11.

¹¹⁴⁷ III. 22.

¹¹⁴⁸ Bālakāṇḍa, 6th sarga.

¹¹⁴⁹ Atharvaveda, XX. 131. 23.

¹¹⁵⁰ White Yajurveda, XVI. 27 ; XXX. 7.

The Atharvaveda¹¹⁵¹ refers to the hunting of boars with the help of hounds. The arrow was sometimes employed but the normal instruments of capture were nets and pitfalls. The word ākhaḥ occurs in the Black Yajurveda¹¹⁵² which is taken by Sāyana as a pit artificially made where the hunter could lie in wait at a convenient distance for shooting.¹¹⁵³ The net called jāla¹¹⁵⁴ which was fastened on pegs¹¹⁵⁵ was used for capturing wild birds and beasts. The hunting of the deer¹¹⁵⁶ and antelope¹¹⁵⁷ with the help of the bow and the arrow is referred to in the Rāmāyaṇa.

Fishing became the main occupation of a section of the population. The fisherman fishing in rivers¹¹⁵⁸ and in lakes¹¹⁵⁹ and the fishvender¹¹⁶⁰ are mentioned. Of fish the Nirāla is mentioned in the Atharvaveda.¹¹⁶¹ Of aquatic animals crabs (kakkata) and tortoises (kurma)¹¹⁶² are mentioned. The Śatapatha Brāhmaṇa¹¹⁶³ describes the kaśyapa (which is identified with kurma), a sacred animal, a form of Prajāpati from which all beings sprang up, though we do not learn that the kaśyapa was worshipped or eaten sacramentally.¹¹⁶⁴

The word kṛśana, meaning a pearl occurs in the Atharvaveda.¹¹⁶⁵ The belief mentioned by Dioscorides and Pliny — a belief also prevalent among the Persians — that pearls are formed by drops of rain falling into the oyster-shells when open is recorded in the Atharvaveda.¹¹⁶⁶ Pearls seem to have been fished in large quantities for, we find that they were

¹¹⁵¹ XX. 126. 4.

¹¹⁵² 4. 11. 3.

¹¹⁵³ The word is mentioned in Pāpinī, III. 3. 125, Vārtt. 1, while Pāpinī himself gives ākhana.

¹¹⁵⁴ Atharvaveda, X. 1. 30.

¹¹⁵⁵ Ibid., VIII. 8. 5.

¹¹⁵⁶ Rāmāyaṇa, Aranyakāṇḍa, 14th sarga.

¹¹⁵⁷ Ibid., Ajodhyakāṇḍa, 56th sarga.

¹¹⁵⁸ White Yajurveda, XXX. 8.

¹¹⁵⁹ Ibid., XXX. 16.

¹¹⁶⁰ Ibid.

¹¹⁶¹ VI. 16. 3.

¹¹⁶² Atharvaveda, IX. 4. 16 ; Black Yajurveda, V. 2. 8. 4—5.

¹¹⁶³ VIII. 5. 1. 5.

¹¹⁶⁴ Keith — Black Yajurveda, Introduction, C XXI.

¹¹⁶⁵ IV. 10. 1, 3 ; XX. 16. 11.

¹¹⁶⁶ IV. 10.

used by men and women not only for the beautification of their persons but also for adorning their horses.¹¹⁶⁷ Amulets of the shell of pearl-oyster were also worn by the people as a protection against disease and indigence.¹¹⁶⁸

Progress in arts and crafts—In keeping with its wider geographical outlook and its growth of towns this period is marked by a striking development of industrial life and the subdivision of occupations caused by the ever-increasing needs of the townpeople and the agricultural and military requirements of a community settled in the midst of a hostile population. Among the more important industries of this period we may mention the following :—

(1) **Weaving**—Technical terms connected with weaving like *otu* (woof),¹¹⁶⁹ *tan'u* (yarn, threads),¹¹⁷⁰ *annchāda*¹¹⁷¹ or *prācīnālāna*¹¹⁷² (forward stretched web) are frequently mentioned. The *vemān* (loom)¹¹⁷³ and the *mayūḥa*¹¹⁷⁴ meaning wooden pegs to stretch the web on or shuttle are mentioned in simile :

“Like shuttle through the loom the steady ferment mixes
The red juice with the foaming spirit.”¹¹⁷⁵

And in the Atharvaveda we read :

“Singly the two young maids of different colours
Approach the six-pegged warp in turns and weave it.”¹¹⁷⁶

Day and Night are compared here to two young maids, the six regions of the world to the six wooden pegs : Dawn weaves the luminous weft of

¹¹⁶⁷ Atharvaveda, XX. 16. 11.

¹¹⁶⁸ Ibid., IV. 10. 3.

¹¹⁶⁹ Ibid., XIV. 2. 51 ; White Yajurveda, VI. 1. 1. 4.

¹¹⁷⁰ Atharvaveda, XIV. 2. 51 ; cf. XV. 3. 6 ; Kāṭhaka Saṃhitā, XXIII. 1.

¹¹⁷¹ Śātapatha Brāhmaṇa, III. 1. 2. 13 ff.

¹¹⁷² Black Yajurveda, VI. 1. 1. 3 ff.

¹¹⁷³ White Yajurveda, XIX. 83 ; Maitrāyaṇī Saṃhitā, III. 11. 9 ; Kāṭhaka Saṃhitā, XLII. 3 ; Taittirīya Brāhmaṇa, II. 1. 4. 2.

¹¹⁷⁴ White Yajurveda, XIX. 80.

¹¹⁷⁵ White Yajurveda, XIX. 83.

¹¹⁷⁶ Atharvaveda, X. 7. 42.

Day and Night removes it from the loom. The use of a large number of words for cloth and for its different parts presupposes a fully developed and long established indigenous weaving industry. For cloth we have the words *vastra*,¹¹⁷⁷ *vāsas*¹¹⁷⁸ and *vasana*.¹¹⁷⁹ The *sic* meaning the border or fringe occurs in the Atharvaveda¹¹⁸⁰ where the child is covered by its mother's *sic* and in the Śatapatha Brāhmaṇa¹¹⁸¹ where a deer horn is tied in the sacrificer's *sic*. *Daśā* meaning border or fringe occurs in the Brāhmaṇas.¹¹⁸² The wider border is specially designated *nivi*,¹¹⁸³ the closely woven end of the cloth — from which depends the *praghāta*¹¹⁸⁴ or the strikers, the loose long unwoven fringe with swaying tassels. The *vāsas* has only one *nivi* usually, as now, the other end of the cloth being much plainer : to this plainer end would belong the *tūṣa*,¹¹⁸⁵ (the chaffs), a shorter fringe corresponding to the modern *chilkā*. The *vāṭaṭāna*¹¹⁸⁶ descriptive of the *vāsas* as part of it, obviously cannot mean 'a garment to protect against winds' : it is rather that part of the cloth which protects it against winds, *i. e.*, its lengthwise borders¹¹⁸⁷ which keep the web together from becoming thread-bare by fluttering in the wind (specially during movements). The *āroṅkāḥ*¹¹⁸⁸ (or 'the brilliants') seem to have been

¹¹⁷⁷ Ibid., V. 1. 3 ; IX. 5. 25 ; XII. 3. 21.

¹¹⁷⁸ White Yajurveda, II. 32 ; XI. 40 : Black Yajurveda, VI. 1. 9. 7 ; VI. 1. 11. 2 ; Aitareya Brāhmaṇa I. 3.

¹¹⁷⁹ Chāndogya Upaniṣad VIII. 8. 5 ; Kauṣītaki Upaniṣad, II. 15.

¹¹⁸⁰ XVIII. 3. 50 = Rīgveda, X. 18. 11.

¹¹⁸¹ III. 2. 1. 18.

¹¹⁸² Śatapatha Brāhmaṇa, III. 3. 2. 9 ; cf. IV. 2. 2. 11 ; I. 1. 2. 8 ; Aitareya Brāhmaṇa, VII. 32.

¹¹⁸³ Atharvaveda, VIII. 2. 16 ; Black Yajurveda, VI. 1. 1. 3 ff. ; Kāṭhaka Saṃhitā, XIII. 1. ; Śatapatha Brāhmaṇa, III. 1. 2. 13 ff.

¹¹⁸⁴ Ibid. The *antāḥ* of Atharvaveda, XIV. 2. 51. is clearly = *praghāta*.

¹¹⁸⁵ Black Yajurveda, I. 8. 1. 1 ; II. 4. 9. 1 ; VI. 1. 1. 3 ; Kāṭhaka Saṃhitā, XIII. 1 ; Taittirīya Brāhmaṇa, I. 6. 1. 8 ; Pañchaviṃśa Brāhmaṇa, XVII. 1. That *tūṣa* = chaff, like lashes is evident from its dedication to Agni.

¹¹⁸⁶ Black Yajurveda, VI. 1. 1. 3 ff. ; *vāṭapā* : Kāṭhaka Saṃhitā, XXIII. 1.

¹¹⁸⁷ Probably preserved in the *batan* (= border) of the Bengal weavers *e. g.*, in *golā-batan* cloths ; also in vernacular 'bātā', split bamboo, used in strengthening borders of thatches etc.

¹¹⁸⁸ Śatapatha Brāhmaṇa, III. 1. 2. 13 ff. : *atirokāḥ* : Kāṭhaka Saṃhitā, XXIII. 1 ; compare the classification of shawls as *ek-rokhā* and *du-rokhā* according to the nature of their embroidered patterns.

flowers, stars or other spotty patterns embroidered all over the cloth,¹¹⁸⁹ corresponding to modern *phul*, *buṭā* etc.

The *vāsas* was always tied or girt (*naḥ*)¹¹⁹⁰ which implies tucks and knots. The idiom *nīvimṣṣ*¹¹⁹¹ shows that each individual wore the *nīvi* in his or her own way. The *nīvi*-knot was sometimes so fashioned as to form a pouch, wherein magic herbs could be borne.¹¹⁹² Sometimes also the *nīvi* consisted of simply two tuckings up (*udgūhana*)¹¹⁹³ at the sides (as now, with men). Elsewhere women are said to tie their *nīvi* on the right side of the hip; such *nīvi* must have been an ampler gather of folds and fringe-tassels, for there a bundle of *bahris* represents the *nīvi*.¹¹⁹⁴ It seems probable that no part of the broad border was left for covering the bosom and shoulders and the early sculptures, etc., do not show it. Apparently the upper part of the body was covered by another separate garment called *adhivāsa*.¹¹⁹⁴ The *adhivāsa* seems to have been an 'over-garment', worn by princes over their inner and upper garments.¹¹⁹⁵ We have already seen that in the *Rigveda*¹¹⁹⁶ the forests are described as the *adhivāsa* of mother-earth licked by the fire-child. It was thus more like a long loose-flowing dressing-gown, suiting both men and women¹¹⁹⁷ and not a close-fitting garment as the authors of the *Vedic Index* have taken it to be. It may not, however, have been a tailor-made garment at all being called a *vāsas*.¹¹⁹⁸ The *drāpi*¹¹⁹⁹ seems to have

¹¹⁸⁹ So also they are dedicated to the *nakṣatras*, stars.

¹¹⁹⁰ *Atharvaveda*, XIV. 2. 70.

¹¹⁹¹ *Ibid.*, VIII. 2. 16 (what *nīvi* thou makest for thyself?); *Atharvaveda*, VIII. 6. 2. 20; XIV. 2. 49—50. It is possible, however, to see in 'yat te *vāsaḥ* *paridhānaṃ*, *yāṃ nīviṃ kṛṇuṣe tvam*, a reference to the ordinary wearing cloth and a separate woven strip to serve as waist-band and this separation of the *nīvi* is also shown in quite early sculptures, etc. But even in that case *nīvi* would be an outer adjunct and not an inner garment as taken by the authors of the *Vedic Index*.

¹¹⁹² *Atharvaveda*, VIII. 6. 20.

¹¹⁹³ *Śatapatha Brāhmaṇa*, III. 2. 1. 15.

¹¹⁹⁴ *Śatapatha Brāhmaṇa*, V. 4. 4. 3.

¹¹⁹⁵ *Ibid.*

¹¹⁹⁶ I. 140. 9.

¹¹⁹⁷ *Rigveda*, I. 140. 9 (*mātuḥ*); cf. *Rigveda*, X. 5. 4. ¹¹⁹⁸ *Rigveda*, I. 162. 16.

¹¹⁹⁹ According to the authors of the *Vedic Index* *drāpi* is a coat of mail.

been a gold-embroidered¹²⁰⁰ vest.¹²⁰¹ *Peśa* is gold-embroidered cloth generally¹²⁰² with artistic designs.¹²⁰³ The *pratidhi* must from the context¹²⁰⁴ refer to a part of the bride's attire, apart from the newly woven, excellent garment.¹²⁰⁵ The *uṣṇīṣa*, head-dress occurs for the first time in the Atharvaveda¹²⁰⁶ and often in the Yajurveda Saṃhitās and Brāhmaṇas chiefly in connection with the Vrātyas¹²⁰⁷ and kings.¹²⁰⁸ The Vrātya *uṣṇīṣa* was bright and white as day,¹²⁰⁹ so that it might well have been of some fine cotton-stuff. According to Kātyāyana Śrauta Sūtra¹²¹⁰ the *uṣṇīṣa* was tied with a tilt and cross windings (*tiryañ-naddham*). At sacrificial ceremonies, however, the king's *uṣṇīṣa* was tied in a special manner: the ends were gathered together and tucked away in front, so as to cover them up.¹²¹¹ Elsewhere in ritual the *uṣṇīṣa* was a mere handkerchief¹²¹²; so also Indrāṇi wears an *uṣṇīṣa* like a Zone, of variegated hue¹²¹³—clearly a multi-coloured kerchief.

Among the materials used in the weaving of cloth wool was one. *Urṇā* was the hairy covering of any animal while *āvika* in the sense of sheep's wool occurs in the Bṛhadāranyaka Upaniṣad.¹²¹⁴ Threads of wool are mentioned in the white Yajurveda,¹²¹⁵ Maitrāyaṇi Saṃhitā¹²¹⁶ and the

¹²⁰⁰ *Hiraṇya-drāpi* worn by Arāti in Atharvaveda, V. 7. 10.

¹²⁰¹ Atharvaveda, XIII. 3. 1 where the Sun wearing the three worlds is described as making a *drāpi* of them. Hence the *drāpi* seems to have three pieces, two side ones and one back. like a waist-coat. The fact that it was worn by women as well (Atharvaveda, V. 7. 10) and the use of 'vasānaḥ' (*drāpiṃ vasānaḥ* in Rigveda, IX. 86. 14) would show that it was not a coat of mail but was made of *vāsa*s, cloth.

¹²⁰² White Yajurveda, XIX. 82, 83, 89.

¹²⁰³ Ibid., XX. 41 where the design is compared to the poet's songs.

¹²⁰⁴ Atharvaveda, XIV. 1. 8.

¹²⁰⁵ Ibid., XIV. 1. 7. 45.

¹²⁰⁶ XV. 2. 1 ff.

¹²⁰⁷ Pañchaviṃśa Brāhmaṇa, XVI. 6. 13.; XVII. 1.14.

¹²⁰⁸ Śatapatha Brāhmaṇa, V. 3. 5. 23 (King at sacrifices); XIV. 2. 1. 18 (Indrāṇi); III. 3. 2. 3. (King 'Soma'); Maitrāyaṇi Saṃhitā IV. 4. 3 (Kṣatra at sacrifices); Black Yajurveda, III. 4. 1. 4; Kāthaka Saṃhitā, XIII. 10.

¹²⁰⁹ Atharvaveda, XV. 2.

¹²¹⁰ XXI. 4.

¹²¹¹ *Samhṛitya purastād avaguhyaṭi* in Śatapatha Brāhmaṇa, V. 3. 5. 20ff.

¹²¹² Śatapatha Brāhmaṇa, IV. 5. 2. 2. 7. Compare Śatapatha Brāhmaṇa, III. 3. 2. 3.

¹²¹³ Śatapatha Brāhmaṇa, XIV. 2. 1. 8.

¹²¹⁴ II. 3. 6.

¹²¹⁵ XIX. 80.

¹²¹⁶ III. 11. 9.

Kāṭhaka Samhitā¹²¹⁷ ; while Kambala¹²¹⁸ (blanket) and sāmulya (under-garment of wool ?) are mentioned in the Atharvaveda.¹²¹⁹

A more common material for weaving cloth for ritual use was linen or silk. The tārpya¹²²⁰ with which the dead body is clothed in order that the dead may go about properly dressed in the realm of Yama¹²²¹ is a silken garment according to Goldstücker while others take it to mean linen. If the commentator has any basis for its explanation 'made from Tṛpa or Tripaṇḍa leaves', these would refer to mulberry leaves or other leaves suitable for silk-cocoons. According to Professor Subimal Chandra Sarkar¹²²² the 'uttuda' in Atharvaveda, III. 25.1. probably means 'sprung from 'tuda' or mulberry i.e., silken (coverlet). The Kṣauma which according to Max Müller means a linen cloth occurs in the Maitrāyaṇī Samhitā¹²²³ and in the Black Yajurveda.¹²²⁴ The Atharvaveda¹²²⁵ refers to Śana, hemp as growing in the forest but we do not know whether its fibre was used as a material for weaving cloth. Garments made of bark, so frequent in later literature are rarely mentioned in Vedic texts ; probably the 'barāsi' of Kāṭhaka Samhitā¹²²⁶ was a barken stuff ; and it is interesting to note in this connection that the Kāṭhakas lived in the North-Western and sub-Himalayan regions where the Barāsi tree, a red-flowered rhododendron is still fabled to yield cloths.

No doubt, the word kārpaśa (meaning cotton from the cotton plants of the genus *Gossipium* with its typical convoluted structure) does not occur either in the Rigveda or in later Vedic literature proper ; but we have already seen that the Babylonian and Greek names for cotton—

¹²¹⁷ XXXVIII. 3.

¹²¹⁸ In vernacular proverbs and folk-lore the kambala is made of loma, hair. Compare Tamil, 'Kam (p) ali = rough hair-cloth.

¹²¹⁹ XIV. 2. 66, 67 (Kambala) ; XIV. 1. 25 (Sāmulya).

¹²²⁰ Black Yajurveda, II. 4. 11. 6 ; Maitrāyaṇī Samhitā, IV. 4. 3 ; Taittirīya Brāhmaṇa, I. 3. 7. 1. ; I. 7. 6. 4 ; Śatapatha Brāhmaṇa, V. 3. 5. 20 ; Kātyāyana Śrautasūtra, XV. 5. 7.

¹²²¹ Atharvaveda, XVIII. 4. 31.

¹²²² Some Aspects of the Earliest Social History of India, p. 62 fn.

¹²²³ III. 6. 7.

¹²²⁴ VI. 1. 1. 8.

¹²²⁵ II. 4. 5.

¹²²⁶ XV. 4 ; also Pañcaviṃśa Brāhmaṇa, XVIII. 9. 6 ; XXI. 3. 4.

Sind and Sindon respectively—have always pointed to Sind as the home of cotton-growing and that cotton as weaving material was known early in the Chalcolithic Age to the people of Sind as proved by the discovery at Mohenjo-daro of karpāsa and of even scraps of a fine woven cotton material. The word karpāsa does, however, occur in the Aśvalāyana Śrauta Sūtra which was composed not later than the eighth century B. C. towards the close of the Brāhmaṇa Period when the Aryans came to occupy the cotton-growing districts lying far into the interior of country.

From the Rāmāyaṇa we find that the weaving industry was carried to its perfection. We hear of beddings decorated with gold,¹²²⁷ coverlets decked with gems and jewels,¹²²⁸ coverlet decorated with gold¹²²⁹ coverlet or carpet (āstarāṇa) decorated with gold and silver¹²³⁰ coverlet or carpet (āstarāṇa) dyed with the colour of lac (lākṣā-rāga-rañjita),¹²³¹ gold-embroidered dress (worn by king Rāvaṇa),¹²³² cloth decorated with designs (citra-vastra) presented by Kekayarāja Yudhājī to king Rāma of Ajodhyā¹²³³ and blankets with variegated designs on them.¹²³⁴

Garments were a favourite article of gift to Brahmins and dependents. King Daśaratha is described as the giver of garments.¹²³⁵ As the funeral procession of Daśaratha proceeded to the cremation grounds, garments were freely distributed among the people.¹²³⁶ At the śrādhā ceremony of Daśaratha Brahmins were lavishly presented with white cloths.¹²³⁷ King Janaka's marriage-dowry to his daughters included among others blankets, silk or linen garments and ordinary cloth.¹²³⁸ On the eve of her departure for the Daṇḍaka forest Sītā under the advice of her husband gave away all her best garments first to the Brahmins and then to her servants.¹²³⁹

Kṣāuma is frequently mentioned in the Rāmāyaṇa. We find Kauśalyā dressed in kṣāuma in pūjā time.¹²⁴⁰ The beauty of the hump-backed

¹²²⁷ Kiṣkindhyākāṇḍa, 50th sarga.

¹²²⁸ Lankākāṇḍa 11th sarga.

¹²²⁹ Kiṣkindhyākāṇḍa 23rd sarga.

¹²²⁸ Uttarakāṇḍa, 113th sarga

¹²²⁸ Ajodhyākāṇḍa, 77th sarga.

¹²²⁷ Ibid., 77th sarga.

¹²²⁸ Bālākāṇḍa, 74th sarga : 'Kambalānāṇcha mukhyānām kṣaumyān kotyambarāṇi cha'.

¹²²⁸ Ajodhyākāṇḍa, 30th sarga.

¹²²⁸ Sundarakāṇḍa, 10th sarga.

¹²²⁸ Ajodhyākāṇḍa, 88th sarga.

¹²²⁸ Sundarakāṇḍa, 10th sarga.

¹²²⁸ Kiṣkindhyākāṇḍa, 50th sarga.

¹²²⁸ Ibid., 76th sarga.

¹²⁴⁰ Ibid., 4th sarga.

maid-servant Mantharā increased whenever she wore kṣauma.¹²⁴¹ On the occasion of Rāma's proposed consecration as Yuvarāja his mother Kauśalyā wore kṣauma.¹²⁴² On this occasion Rāma himself was dressed in kṣauma.¹²⁴³ On this occasion even the nurses of the royal palace of Ajodhyā were dressed in kṣauma.¹²⁴⁴ King Janaka's marriage-dowry to his daughters included a large quantity of kṣauma.¹²⁴⁵ Daśaratha's queens were clad in kṣauma when they welcomed their newly married daughters-in-law and led them to the temple.¹²⁴⁶ Leaving aside his usual dress and weapons Bharata before entering the hermitage of Varadwāja wore kṣauma as befitting such an occasion.¹²⁴⁷ When Rāvaṇa was cremated his dead body was dressed with kṣauma.¹²⁴⁸ It thus becomes apparent that in the age of Rāmāyaṇa kṣauma was specially used on ceremonial occasions.

Blankets (made of wool) were also used. Blanket-makers (kambalākāra) followed Bharata when he left Ajodhyā to bring Rāma back from the forest.¹²⁴⁹ Blankets formed part of the marriage-dowry given by king Janaka to his daughters.¹²⁵⁰ Bharata received as present from his maternal grandfather multi-coloured blankets.¹²⁵¹ Kekayarāja Yudhājit sent presents of kambalas to king Rāma of Ajodhyā.¹²⁵² In the palatial houses built by Maya in the Golden Forest Hanumāna saw innumerable blankets of variegated designs stored up.¹²⁵³ When Hanumāna set fire to the city of Lankā many blankets and cloth made of āvika, sheep's wool along with kṣauma were reduced to ashes.¹²⁵⁴

Silk cloths (kaūṣeya) are also frequently mentioned. On the occasion of Rāma's proposed consecration as Yuvarāja the streets of Ajodhyā were overspread with patta-vastra and kaūṣeya.¹²⁵⁵ On the eve of his departure for the Daṇḍaka forest Rāma gave away kaūṣeya cloths to an ācārya.¹²⁵⁶

¹²⁴¹ Ibid., 9th sarga.

¹²⁴² Ibid., 20th sarga.

¹²⁴³ Ibid., 6th sarga.

¹²⁴⁴ Ibid., 7th sarga.

¹²⁴⁵ Bālakāṇḍa, 74th sarga.

¹²⁴⁶ Ibid., 77th sarga.

¹²⁴⁷ Ajodhyākāṇḍa, 90th sarga.

¹²⁴⁸ Lankākāṇḍa, 113th sarga.

¹²⁴⁹ Ajodhyākāṇḍa, 83rd sarga.

¹²⁵⁰ Bālakāṇḍa, 74th sarga.

¹²⁵¹ Ajodhyākāṇḍa, 70th sarga.

¹²⁵² Uttarakāṇḍa, 113th sarga.

¹²⁵³ Kiṣkindhyākāṇḍa, 50th sarga.

¹²⁵⁴ Lankākāṇḍa, 75th sarga.

¹²⁵⁵ Ajodhyākāṇḍa, 17th sarga.

¹²⁵⁶ Ibid., 32nd sarga.

Sitā used to wear kauṣeya in the royal palace in Ajodhyā.¹²⁵⁷ On Daśa-ratha's death Vasiṣṭha sent messengers with presents of kauṣeya to Bharata to bring him back from his maternal grandfather's palace in the Kekaya kingdom.¹²⁵⁸ Bharata in the course of his search for Rāma found silken threads (kauṣeya-tantu) of Sitā's dress sticking to the grass over which she slept in the forest.¹²⁵⁹ Sitā used to wear yellow silken cloth (pīta-kauṣeya) while at Pāñchavati forest.¹²⁶⁰ While she was being carried away by Rāvaṇa Sitā threw away her silken upper garment of golden hue (kanakadyuti-kauṣeya-uttariya) at the five monkeys so that they may give a clue to Rāma about her whereabouts.¹²⁶¹ Even in the Aśoka forest Hanumāna found Sitā wearing her self-same yellowish silk-dress.¹²⁶²

(2) Metal industry—The advance of civilisation is also seen in the more extended knowledge and use of metals and in the large number of mining industries of the period. Besides gold¹²⁶³ and ayas¹²⁶⁴ known in the Rigvedic Age, the Atharvaveda mentions silver,¹²⁶⁵ tin (trapu),¹²⁶⁶ lead (śiṣa)¹²⁶⁷ and śyāma, occurring along with asi, meaning a sword.¹²⁶⁸ In a passage of the White Yajurveda we find a list of six metals then known. :

“Hiraṇyam chame ayaschame śyāmaṁ chame
lohaṁ chame śiṣaṁ chame trapu chame.”¹²⁶⁹

‘May my gold, my ayas, my iron (śyāma), my copper (loha), my lead (śiṣa) and my tin (trapu) prosper by sacrifice. Elsewhere in the White Yajurveda

¹²⁵⁷ Ibid., 37th sarga.

¹²⁵⁸ Ibid., 68th sarga.

¹²⁵⁹ Ibid., 88th sarga.

¹²⁶⁰ Araṇyakāṇḍa, 47th, 52nd and 60th sargas.

¹²⁶¹ Ibid., 54th sarga.

¹²⁶² Sundarakāṇḍa, 15th sarga.

¹²⁶³ Atharvaveda, I. 35. 1, 3; II. 33. 7; V. 1. 3; V. 28. 1, 5; VI. 69. 1; VI. 124. 3; VII. 14. 2; IX. 5. 14, 25, 26, 29; XII. 1. 44; XIV. 1. 40; XVIII. 3. 18; XVIII. 4. 56; XIX. 26. 1; XIX. 27. 9, 10;

XIV. 57. 5; XX. 57. 16; XX. 131. 6, 8; XX. 127. 3; XX. 128. 6.

¹²⁶⁴ Atharvaveda, V. 28. 1, 5; VI. 63. 2, 3; VI. 84. 3; VI. 141. 2; VII. 115. 1; VIII. 3. 2; XIX. 58. 4; XIX. 66; XX. 30. 3.

¹²⁶⁵ Atharvaveda, V. 28. 1, 5; XIII. 4. 51.

¹²⁶⁶ Atharvaveda, XI. 3. 8.

¹²⁶⁷ Atharvaveda, I. 16. 2, 4; XII. 2. 1, 19, 20, 33.

¹²⁶⁸ Atharvaveda, IX. 5. 4.

¹²⁶⁹ White Yajurveda, XVIII. 13.

besides gold,¹²⁷⁰ *ayas*,¹²⁷¹ lead¹²⁷² and silver¹²⁷³ are mentioned. In the Black Yajurveda we have the story of the origin of silver. We are told that Agni carried off the booty gained by the Devas from the Asuras. Pursued by the gods he cried and his tears were converted into silver. The Black Yajurveda also gives us the self-same list of six metals preserved in the White Yajurveda in the following passage : "May for me.....gold, *ayas*, lead (*śīsa*), tin (*trapu*), iron (*śyāma*), copper (*loha*) prosper through the sacrifice."¹²⁷⁴ The Upaniṣads mention besides gold,¹²⁷⁵ silver,¹²⁷⁶ lead,¹²⁷⁷ tin,¹²⁷⁸ *loha*¹²⁷⁹ and *lavaṇa*.¹²⁸⁰ According to Maxmüller *lavaṇa* is "a kind of *kṣāra* or *tanka* or *tankana*. It is evidently borax which is still imported from the East Indies under the name of *tincal*, and used as a flux in chemical processes."¹²⁸¹

The *Bālakāṇḍa* of the *Rāmāyaṇa*¹²⁸² narrates the mythological origin of gold, silver, copper, iron, tin (*raṅga*) and lead out of the womb of *Gangā*, the daughter of the Himalayas. The Himalayas are described as containing all kinds of metal.¹²⁸³ Mines of metals on hill-sides are referred to in the *Ajodhyākāṇḍa*.¹²⁸⁴ We find *Rāma* showing to *Sitā* the beauty of *Chitrakūta* hill, adorned with mines of metals of white, red and yellow

¹²⁷⁰ White Yajurveda, IV. 17 ; IV. 26 ; V. 15 ; VII. 45 ; X. 15 ; X. 25 ; XII 1 ; XII. 3 ; XIII. 3, 4, 28, 39 ; XVII. 11, 71 ; XX 1 ; XX. 2 ; XXIII. 37.

¹²⁷¹ Ibid., V. 8 ; XII. 63 ; XXVI. 26 ; XXIX. 20.

¹²⁷² Ibid, X. 14 ; XIX. 80 ; XXIII. 37.

¹²⁷³ Ibid., V. 8 ; XXIII. 37 ; XX. 2 ; XXXVII. 11.

¹²⁷⁴ Black Yajurveda, IV. 7. 5. Compare *Kāṭhaka Saṃhitā*, XVIII. 10 ; *Kaṣiṭhala Saṃhitā*, XXVIII. 10 ; *Maitrāyaṇī Saṃhitā*, II. 11. 5 ; *Satapatha Brāhmaṇa*, XVIII. 13—15.

¹²⁷⁵ *Kāṭhopaniṣad*, I. 1. 23 ; *Bṛhadāraṇyaka-*

kopaniṣad I. 3. 26 ; VI. 2. 7 ; cf. I. 1. 2 ; III. 1. 1 ; IV. 4. 4 ; VI. 4. 25 ; *Chāndogyaopaniṣad*, IV. 17. 7 ; V. 10. 9 ; VII. 24. 2 ; VIII. 12. 5 ; *Aitareya Āraṇyaka*, III. 2. 4. 17.

Bṛhadāraṇyakopaniṣad, I. 1. 2 ; *Chāndogyaopaniṣad*, IV. 17. 7.

¹²⁷⁷ *Chāndogyaopaniṣad*, IV 17. 7.

¹²⁷⁸ Ibid.

¹²⁷⁹ Ibid.

¹²⁸⁰ Ibid.

¹²⁸¹ *Sacred Books of the East*, Vol. I p. 71 fn.

¹²⁸² 37th sarga.

¹²⁸³ *Bālakāṇḍa*, 35th sarga.

¹²⁸⁴ 63rd sarga.

colour.¹²⁸⁵ Bharata while marching with his army by the side of Chitra-kūta in search of Rāma, saw on the hill-slopes minerals of various kinds like gairika etc.¹²⁸⁶ Rāvaṇa on reaching the mountaneous southern sea-coast of the Deccan found the sea-shore strewn with dried up pearls and corals.¹²⁸⁷ On account of the coppery colour of his waist Hanumāna is described as a hill adorned with a newly worked up mine of gairika.¹²⁸⁸ Blood coming out of the wounded body of Bāli is compared to water oozing out of mines of copper and gairika on the body of the hill.¹²⁸⁹ There were mines of different kinds in Ajodhyā as well.¹²⁹⁰ On Sudarśana hill among the Himālayas there was a mine of gold.¹²⁹¹ The Ayomukha mountain otherwise known Malayāchal by whose side the river Kāveri flows is adorned with mines of different metals.¹²⁹² Silver mines in which Sita is to be searched for are also mentioned.¹²⁹³

In the Rāmāyaṇa besides gold, silver, copper, iron, lead and tin we find mention of various other mineral products like gairika,¹²⁹⁴ sudhā,¹²⁹⁵ avra (mica),¹²⁹⁶ sphatika (crystal)¹²⁹⁷ and diamonds.¹²⁹⁸

In the literature of this period we find references not only to the goldsmith¹²⁹⁹ but also to his work: "As a goldsmith taking a piece of gold turns it into another, newer and more beautiful shape so does the Self, after having thrown off this body and dispelled ignorance, makes unto himself another, newer and more beautiful shape."¹³⁰⁰ The melting of gold in fire for purification¹³⁰¹ and the softening of gold by means of

¹²⁸⁵ Ajodhyākāṇḍa, 94th sarga.

¹²⁸⁶ Ibid., 113th sarga.

¹²⁸⁷ Aranyakāṇḍa, 35th sarga.

¹²⁸⁸ Sundarakāṇḍa, 1st sarga.

¹²⁸⁹ Kiṣkindhyākāṇḍa, 22rd sarga.

¹²⁹⁰ Ajodhyākāṇḍa, 100th sarga.

¹²⁹¹ Kiṣkindhyākāṇḍa, 43rd sarga.

¹²⁹² Ibid., 41st sarga.

¹²⁹³ Ibid., 39th sarga.

¹²⁹⁴ Ajodhyākāṇḍa, 113th sarga; Kiṣkindhyākāṇḍa, 23rd sarga; Sundarakāṇḍa, 1st sarga.

¹²⁹⁵ Ajodhyākāṇḍa, 80th sarga; Aranyakāṇḍa, 35th sarga; Sundarakāṇḍa, 7th sarga.

¹²⁹⁶ Ajodhyākāṇḍa, 91st sarga.

¹²⁹⁷ Aranyakāṇḍa, 55th sarga; Sundarakāṇḍa, 9th and 10th sargas; Lankākāṇḍa, 11th sarga.

Aranyakāṇḍa 55th sarga; Kiṣkindhyākāṇḍa, 10th sarga; Lankākāṇḍa, 7th and 77th sargas.

White Yajurveda, XXX. 17; Rāmāyaṇa, Ajodhyākāṇḍa, 83rd sarga; Kiṣkindhyākāṇḍa, 40th sarga.

¹³⁰⁰ Bṛhadāraṇyakopaniṣad, IV. 4. 4.

¹³⁰¹ Rāmāyaṇa, Kiṣkindhyākāṇḍa, 24th sarga.

lavāṇa (borax)¹³⁰² are mentioned. The use of gold in exchange, in sacrifice as well as in the manufacture of ornaments and of sundry other articles for domestic use lends colour to the view that there must have been sources of local supply of gold. Professors Macdonell and Keith¹³⁰³ are of opinion that in those days gold was obtained from the bed of rivers, though the extraction of gold from earth was not unknown.¹³⁰⁴ In the Rāmāyaṇa¹³⁰⁵ we are told by Rāma that princes go to the forest on hunting excursions partly no doubt for the joys of the chase and partly for the flesh it will fetch but in that connection they search with great care for various metals, gems and precious stones and for gold. Washing for gold is recorded in the Black Yajurveda¹³⁰⁶ Kāthaka Samhitā,¹³⁰⁷ Kapiṣṭhala Samhitā¹³⁰⁸ Maitrāyaṇī Samhitā¹³⁰⁹ and in the Śatapatha Brāhmaṇa.¹³¹⁰

We frequently hear of various golden media of exchange like Hiranya-kṛṣṇala,¹³¹¹ Suvarṇa,¹³¹² gold pieces,¹³¹³ Pādas of gold,¹³¹⁴ Śatamāna¹³¹⁵ and Niṣkas.¹³¹⁶ Chips of gold used in sacrifice¹³¹⁷ a circular gold disc or plate with 21 knobs used in sacrifice,¹³¹⁸ golden needles with which are marked out the lines on the body of the sacrificial horse which the dissector's knife is to follow,¹³¹⁹ golden figure of Prajāpati, Agni, the Sacrificer technically known as hiranyagarva,¹³²⁰ gold on the priest's finger,¹³²¹ gold given as fee to the priest,¹³²² sacrificial cauldron with gold-

¹³⁰² Chāndogya Upaniṣad, IV. 17. 7.

¹³⁰³ Vedic Index, II. p. 504.

¹³⁰⁴ Atharvaveda, XII. 1. 6.

¹³⁰⁵ Araṇyakāṇḍa, 43rd sarga.

¹³⁰⁶ VI. 1. 7. 1.

¹³⁰⁷ XXIV. 3.

¹³⁰⁸ XXXVII. 4.

¹³⁰⁹ III. 7. 5. 6.

¹³¹⁰ II. 1. 1. 5. ; III. 2. 4. 9-21.

¹³¹¹ Kāthaka Samhitā, XI. 4 ; cf. Black Yajurveda, II. 3. 2. 1. ; Taittiriya Brāhmaṇa, I. 3. 6. 7 ; Maitrāyaṇī Samhitā, II. 2. 2.

¹³¹² Śatapatha Brāhmaṇa, XII. 7. 2. 13.

¹³¹³ White Yajurveda, IV. 26.

¹³¹⁴ Śatapatha Brāhmaṇa, Kāṇḍa XIV : Bṛhadāraṇyakopaniṣad, I. 1. 1.

¹³¹⁵ Śatapatha Brāhmaṇa, V. 4. 3. 24, 26 ; VII. 7. 2. 13 ; XIII. 2. 3. 2 ; V. 5. 5. 16 ; Black Yajurveda, II. 3. 11. 5 ; III. 2. 6. 3.

¹³¹⁶ Atharvaveda, V. 14. 3 ; V. 17. 14 ; XX. 131. 8 ; Aitareya Brāhmaṇa, VIII. 22.

¹³¹⁷ Atharvaveda, XVII. 11, 71

¹³¹⁸ White Yajurveda, X. 25 ; XII. 1, 12.

¹³¹⁹ White Yajurveda. XXIII. 35, 37.

¹³²⁰ Ibid., XIII. 4, 16, 38 ; Black Yajurveda, IV. 1. 8 ; IV. 2. 8 ; V. 2. 7.

¹³²¹ Atharvaveda, XVIII. 3. 18 ; Śatapatha Brāhmaṇa III. 3. 2. 2.

¹³²² Atharvaveda, IX. 5. 14.

en handles,¹³²³ golden vessel for Aśwamedha called Mahiman,¹³²⁴ and a ladle of pure gold¹³²⁵ are mentioned. In the Rāmāyaṇa we read of golden utensils,¹³²⁶ golden vase for containing water,¹³²⁷ golden pitchers,¹³²⁸ golden pots,¹³²⁹ golden water-pots used by ascetics,¹³³⁰ golden lamps,¹³³¹ golden bedstead, golden bedstead decked with jewels,¹³³² bedstead adorned with gold,¹³³³ seats made of gold,¹³³⁴ golden trappings for elephants,¹³³⁵ fly-flapper (chūmāra) with golden handles¹³³⁶ and decorated with white gems,¹³³⁷ golden throne,¹³³⁸ seats bedecked with gold (Kūñcana-citrita),¹³³⁹ altars made of gold,¹³⁴⁰ gates mounted with gold,¹³⁴¹ gold-mounted arch of a gateway,¹³⁴² golden chariots¹³⁴³ chariots mounted with gold and decked with jewels,¹³⁴⁴ pillars (of chariots) made of gold,¹³⁴⁵ windows (of chariots) made of gold¹³⁴⁶ golden stair case,¹³⁴⁷ gold-mounted windows,¹³⁴⁸ finger-guard (aṅgulitrāṇa) overlaid with gold,¹³⁴⁹ golden hook or goad to drive an elephant,¹³⁵⁰

¹³²³ White Yajurveda, XXXIII. 19.

¹³²⁴ Brhadāranyakopaniṣad, I. 1. 2.

¹³²⁵ Ibid., VI. 4. 25.

¹³²⁶ Ajodhyākāṇḍa, 91st sarga; Kiṣkindhyākāṇḍa, 50th sarga; Sundarakāṇḍa, 1st and 11th sargas; Lankākāṇḍa, 75th sarga.

¹³²⁷ Suvarṇa Vīṅgāra in Ajodhyākāṇḍa, 14th sarga.

¹³²⁸ Ajodhyākāṇḍa, 15th sarga; Sundarakāṇḍa, 10th and 11th sargas; Kiṣkindhyākāṇḍa, 26th sarga.

¹³²⁹ Ghata in Ajodhyākāṇḍa, 14th and 65th sargas.

¹³³⁰ Swarnakamandalu in Sundarakāṇḍa, 1st sarga.

¹³³¹ Sundarakāṇḍa, 9th sarga.

¹³³² Ajodhyākāṇḍa, 16th and 19th sargas; Kiṣkindhyākāṇḍa, 33rd sarga.

¹³³³ Sundarakāṇḍa, 11th sarga.

¹³³⁴ Ajodhyākāṇḍa, 72nd sarga.

Ibid, 10th, 72nd and 81st sargas; Sundarakāṇḍa, 1st and 11th sargas.

¹³³⁵ Lankākāṇḍa, 129th sarga.

¹³³⁶ Kiṣkindhyākāṇḍa, 26th sarga.

¹³³⁷ Ajodhyākāṇḍa, 15th and 16th sargas.

¹³³⁸ Kiṣkindhyākāṇḍa, 26th sarga.

¹³³⁹ Ajodhyākāṇḍa, 26th sarga; Uttarakāṇḍa, 1st sarga.

¹³⁴⁰ Ajodhyākāṇḍa, 10th sarga.

¹³⁴¹ Kiṣkindhyākāṇḍa, 33rd sarga.

¹³⁴² Sundarakāṇḍa, 6th sarga.

¹³⁴³ Bālakāṇḍa, 53rd sarga.

¹³⁴⁴ Ajodhyākāṇḍa 16th sarga; Aranyakāṇḍa, 22nd sarga.

¹³⁴⁵ Sundarakāṇḍa, 9th sarga.

¹³⁴⁶ Ibid., 8th sarga.

¹³⁴⁷ Ibid., 9th sarga.

¹³⁴⁸ Ibid.

¹³⁴⁹ Ajodhyākāṇḍa, 99th sarga.

¹³⁵⁰ Bālakāṇḍa, 53rd sarga.

gold armour,¹³⁵² weapons mounted with gold,¹³⁵³ sword decked with gold,¹³⁵⁴ sword with golden handles,¹³⁵⁵ bow decked with gold,¹³⁵⁶ shafts decked with gold,¹³⁵⁷ golden sheath for sword,¹³⁵⁸ golden image (of *Siṭā*),¹³⁵⁹ golden figures of fish, flowers, trees, birds, mountains and stars engraved on chariots,¹³⁶⁰ golden images engraved on chariots,¹³⁶¹ and golden images placed in the bed-chamber of Rāvana's palace.¹³⁶³

Golden ornaments are frequently mentioned.¹³⁶⁴ The word *alaṃkāra* does not occur in the four Vedas but the word *añja* or *añji* meaning ornaments does occur.¹³⁶⁵ The word *alaṃkāra* occurs for the first time in the *Śatapatha Brāhmaṇa*¹³⁶⁶ and in the *Chāndogya Upaniṣad*.¹³⁶⁷ In the *Atharvaveda* the following ornaments are mentioned :—(1) *Tirita*¹³⁶⁸—In *Amarakoṣa* it is explained as an ornament of the head (*mukutamāṇi* or *sirobhuṣaṇa*, a tiara-like ornament). (2) *Parihasta*¹³⁶⁹—It was probably a bracelet or two connected rings regarded as one amulet.¹³⁷⁰ (3) *Pravarta*¹³⁷¹—It was an ornament, circular in shape, probably for the cars; (4) *Ring*¹³⁷² (5) *Golden amulets*¹³⁷³ (6) *Necklace of niṣka-coins* as the term *niṣkagṛīva*¹³⁷⁴ shows; (7) *Kurira*¹³⁷⁵—According to *Zimmer* it means peacock. If this meaning is accepted, then *kurira* is a tiara-like ornament for the head.¹³⁷⁶ (8) *Kumba*¹³⁷⁷ According to

¹³⁵² *Lankākāṇḍa*, 75th sarga.

¹³⁵³ *Ibid.*

¹³⁵⁴ *Ajodhyākāṇḍa*, 31st sarga; *Aranyakāṇḍa*, 12th sarga.

¹³⁵⁵ *Aranyakāṇḍa*, 4th sarga; *Sundarakāṇḍa*, 1st sarga.

¹³⁵⁶ *Sundarakāṇḍa*, 47th sarga.

¹³⁵⁷ *Aranyakāṇḍa*, 3rd and 20th sargas; *Kiṣkindhyākāṇḍa*, 16th sarga.

¹³⁵⁸ *Aranyakāṇḍa*, 12th sarga.

¹³⁵⁹ *Uttarakāṇḍa*, 112th sarga.

¹³⁶⁰ *Aranyakāṇḍa*, 22nd sarga.

¹³⁶¹ *Sundarakāṇḍa*, 6th sarga.

¹³⁶³ *Ibid.*, 9th sarga.

¹³⁶⁴ *Ajodhyākāṇḍa*, 15th sarga.

¹³⁶⁵ *Atharvaveda*, XIV. 40; *White Yajurveda*, XV. 50; XVII. 97; XXXIV. 52.

¹³⁶⁶ *Rigveda*, I. 64. 4.

¹³⁶⁷ III. 5. 1. 36; XIII. 8. 4. 7.

¹³⁶⁸ VIII. 8. 5; *Pretasya śariraṃ vasa-nenālaṃkāreṇa saṃskurvanti*.

¹³⁶⁹ *Atharvaveda*, VIII. 6. 7.

¹³⁷⁰ *Ibid.*, VI. 81. 1, 2.

¹³⁷¹ *Seo Kauṣikasūtra*, XXXV. 11.

¹³⁷² *Atharvaveda*, XV. 2. 1.

¹³⁷³ *Ibid.*, XX. 128. 6, 7.

¹³⁷⁴ *Ibid.*, I. 35; V. 28; XIX. 26.

¹³⁷⁵ *Ibid.*, V. 14. 3.

¹³⁷⁶ *Ibid.*, VI. 138. 2; XIV. 1. 8.

¹³⁷⁷ Compare *Āpastamba Śrautasūtra*: 'Kumba and Kurira on the patni's head' Prof. Subimal Sarkar in his *Some Aspects of the Earliest Social History of India* takes it to be a kind of horn-shaped coiffure (p. 72).

¹³⁷⁸ *Atharvaveda*, VI. 138. 3.

Sāyana it was used by women in hair-culture ; probably it is comb.¹³⁷⁸ (9) Opaśa¹³⁷⁹ — It was used for adorning the head. Roth thinks that it was a corruption of aba + paśa and hence meant hair-tape or hair-net.¹³⁸⁰ (10) Lalūma — It was a tiara worn on the forehead like a frontlet. (11) Lalūmya, frontlet (12) Lalamagu, frontlet (13) Surukma, an ornament for the chest (14) Rukmastarana, an ornament for the chest usually of crescent shape. (15) Nīnāha, an ornament for the waist. (16) Devāñjana (17) Nalada (18) Madhūlaka (19) Siman (20) Susra (21) Swandāñji (22) Haritasraj or Hirāṇyasraj. The White Yajurveda refers to the gold-smith¹³⁸¹ and the jeweller¹³⁸² and to gold ornaments.¹³⁸³ It refers to a gold ornament, perhaps a chain, round the neck of the sacrificer,¹³⁸⁴ to Opaśa,¹³⁸⁵ to gold worn as amulet¹³⁸⁶ and to golden trappings for horses.¹³⁸⁷ The Black Yajurveda, refers to Opaśa,¹³⁸⁸ Sraj, Puṇḍarisraj and Voga. In the Kāthopanīṣad¹³⁸⁹ we find that Yama offered to Nachiketas an ornament called Sṛiṅkā. The Tāṇḍamahābrāhmaṇa mentions the ornament called Sraj made of gold. The term niṣkagrīva in the Aitareya Brāhmaṇa undoubtedly refers to the practice of wearing necklaces of niṣka coins. The Pañchaviṃśa Brāhmaṇa refers not only to Opaśa¹³⁹⁰ but also to necklaces of silver niṣka coins worn by the Vṛātyas.¹³⁹¹ We hear of Rukmapāśa in the Śatapatha Brāhmaṇa,¹³⁹² a chain by means of which Rukma was worn on the breast. Karṇaśovana, mentioned in the Śatapatha Brāhmaṇa, literally means an adornment for the ear, hence earring. In the Chāndogya Upanīṣad¹³⁹³ we read of a

¹³⁷⁸ Prof. Subimal Sarkar in his *Some Aspects of the Earliest Social History of India* takes it to mean a style of hair-dressing (p. 73).

¹³⁷⁹ Atharvaveda, VI. 138. 1.

¹³⁸⁰ Compare : 'A net that hath thousand eyes spread over the roof of a house' in Atharvaveda, IX. 3. 8. See also ante, fn. No. 444.

¹³⁸¹ White Yajurveda, XXX. 17.

¹³⁸² Ibid., XXX. 7.

¹³⁸³ White Yajurveda, XV. 50 ; XXXIV. 52.

¹³⁸⁴ Ibid., XXII. 1.

¹³⁸⁵ Ibid., XI. 53.

¹³⁸⁶ Ibid., XXXIV. 50.

¹³⁸⁷ Ibid., XXV. 39.

¹³⁸⁸ Black Yajurveda, IV. 1. 5. 3.

¹³⁸⁹ I. 16 : 'Tabaiba nāmā vabītāya-magnih sṛiṅkāñchemā manekarū-pāṇ gṛhāpa.'

¹³⁹⁰ IV. 1. 1 ; cf. dvy-opaśaḥ in XIII. 4. 3.

¹³⁹¹ Ibid., XVII. 1. 14.

¹³⁹² VI. 7. 1. 7.

¹³⁹³ IV. 2. 1—4.

necklace offered to Raikva which he politely refused to accept. Maitrāyaṇi Saṃhitā¹³⁹⁴ also refers to opaśa.

In the Rāmāyaṇa we find mention of golden diadem (kirita),¹³⁹⁵ golden diadem bedecked with gems and pearls;¹³⁹⁶ kuṇḍala, earring worn by both men¹³⁹⁷ and women,¹³⁹⁸ golden kuṇḍalas bedecked with diamond and vaidūryamaṇi,¹³⁹⁹ maṇikuṇḍala worn by men as well,¹⁴⁰⁰ karṇāvaraṇa (earring or ornament for the ear) called trikarṇa;¹⁴⁰¹ golden bracelets (kāñchana keyūra worn on the upper arm by both men¹⁴⁰² and women,¹⁴⁰³ karāvaraṇa (bangles) decked with corals,¹⁴⁰⁴ hastāvaraṇa worn by king Daśaratha,¹⁴⁰⁵ valaya, (armlet, bracelet) worn by men¹⁴⁰⁶ as well as women,¹⁴⁰⁷ kanaka aṅgada, golden bracelet worn by both men¹⁴⁰⁸ and women¹⁴⁰⁹; aṅgulīyaka, ring for the fingers¹⁴¹⁰; golden amulet (kavaca),¹⁴¹¹ golden amulet set with vaidūryamaṇi¹⁴¹²; necklace made of gold¹⁴¹³; kāñcana-mālā worn by king Bālī on the neck,¹⁴¹⁴ pearl necklace,¹⁴¹⁵ necklace of Indranīlamāṇi,¹⁴¹⁶ necklace of precious stones strung together with a golden thread,¹⁴¹⁷ necklace of vaidūryamaṇi,¹⁴¹⁸ kaṇṭha-hāra, a kind of ornament for the neck,¹⁴¹⁹ hemasūtra, a golden chain,

1394 II. 7. 5.

1395 Rāmāyaṇa, Aranyakāṇḍa, 38th sarga.

1396 Kiṣkindhyākāṇḍa, 10th sarga.

1397 Ayodhyākāṇḍa, 32nd and 43rd sargas; Sundarakāṇḍa, 8th and 10th sargas; Aranyakāṇḍa, 38th sarga; Lankākāṇḍa, 65th sarga.

1398 Sundarakāṇḍa, 10th and 15th sargas.

1399 Kiṣkindhyākāṇḍa, 10th sarga.

1400 Bālakāṇḍa, 14th sarga.

1401 Sundarakāṇḍa, 15th sarga.

1402 Bālakāṇḍa, 15th sarga: Ayodhyākāṇḍa, 32nd sarga; Lankākāṇḍa, 65th and 130th sargas.

1403 Ayodhyākāṇḍa, 32nd sarga; Sundarakāṇḍa 1st and 11th sargas.

1404 Sundarakāṇḍa, 15th sarga.

1405 Bālakāṇḍa, 14th sarga.

1406 Ayodhyākāṇḍa, 32nd sarga.

1407 Sundarakāṇḍa, 9th sarga.

1408 Ayodhyākāṇḍa, 32nd sarga; Sundarakāṇḍa, 10th sarga. Ayodhyākāṇḍa, 32nd sarga; Sundarakāṇḍa, 10th sarga; Lankākāṇḍa, 65th and 128th sargas.

1411 Lankākāṇḍa, 65th sarga.

1412 Aranyakāṇḍa, 64th sarga.

1413 Bālakāṇḍa, 53rd sarga.

1414 Kiṣkindhyākāṇḍa, 11th sarga.

1415 Ayodhyākāṇḍa, 9th sarga; Kiṣkindhyākāṇḍa, 40th sarga; Sundarakāṇḍa, 9th sarga; Lankākāṇḍa, 130th sarga.

1416 Sundarakāṇḍa, 15th sarga.

1417 Ayodhyākāṇḍa, 32nd sarga.

1418 Sundarakāṇḍa, 9th sarga.

1419 Kiṣkindhyākāṇḍa, 9th sarga.

probably to be worn on the neck¹⁴²⁰ *chandrahāra*, a kind of necklace worn by both men¹⁴²¹ and women,¹⁴²² golden chain for sheep¹⁴²³; *kāñchidāma*, a girdle-like ornament for the waist¹⁴²⁴; *kīñkīṇī-mālā*, a girdle of small bells,¹⁴²⁵ *mekhalā*, an ornament for the waist and loins¹⁴²⁶; and *nūpura*, an ornament for the ankles and feet.¹⁴²⁷

Among the articles made of silver, the *Atharvaveda*¹⁴²⁸ mentions silver amulets which are said to grant vigour to the wearer.¹⁴²⁹ The White *Yajurveda*¹⁴³⁰ mentions silver needles for marking out the lines on the body of the sacrificial horse which the dissector's knife is to follow. Silver plates used in sacrifice are mentioned in the Black *Yajurveda* and in the *Śatapatha Brāhmaṇa*. The *Bṛhadāraṇyakopaniṣad*¹⁴³¹ mentions the silver vessel called *Mahimaṇ* used in the horse-sacrifice. The *Pañchaviṃśa Brāhmaṇa* refers, as we have already seen, to necklaces made of silver *niṣkas* worn by the *Vṛtyas*. In the *Rāmāyaṇa* silver utensils,¹⁴³³ silver pitchers,¹⁴³⁴ seats made of silver,¹⁴³⁵ altars made of silver,¹⁴³⁶ bedsteads made of silver,¹⁴³⁷ pillars mounted with silver,¹⁴³⁸ silver-mounted arch of a gateway,¹⁴³⁹ windows made of silver,¹⁴⁴⁰ images of silver engraved on chariots,¹⁴⁴¹ and images of silver placed in the bed-chamber of *Rāvaṇa*'s palace¹⁴⁴² are mentioned.

We have already seen that the third metal *ayas* is separated from *loha* and *śyāman*¹⁴⁴³ and according to Schrader meant pure dark copper.¹⁴⁴⁴

1420	Sundarakāṇḍa, 9th sarga.	kāṇḍa, 91st sarga	Kiṣkindhyā-kāṇḍa, 50th sarga.
1421	Lankākāṇḍa, 65th sarga.		
1422	Ayodhyākāṇḍa, 32nd sarga.	1434	Ayodhyākāṇḍa, 15th sarga.
1423	Ibid., 14th sarga.	1435	Ayodhyākāṇḍa, 10th sarga.
1424	Sundarakāṇḍa, 9th sarga.	1436	Ibid.
1425	Ibid.	1437	Kiṣkindhyākāṇḍa, 33rd sarga.
1426	Ayodhyākāṇḍa, 78th sarga.	1438	Aranyakāṇḍa, 55th sarga.
1427	Aranyakāṇḍa, 52nd sarga; Sundarakāṇḍa, 1st, 9th and 11th sargas.	1439	Sundarakāṇḍa, 6th sarga.
1428	V. 28. 1.	1440	Aranyakāṇḍa, 55th sarga.
1429	Ibid., V. 28. 5.	1441	Sundarakāṇḍa, 6th sarga.
1430	XXIII. 35, 37.	1442	Ibid., 9th sarga.
1431	I. 1. 2.	1443	White <i>Yajurveda</i> , XVIII. 13; Black <i>Yajurveda</i> , IV. 7. 5.
1432	XVII. 1. 14.	1444	Compare: Latin <i>aes</i> = Goth <i>ais</i> = Zend <i>ayurih</i> , meaning pure dark copper.
1433	Lālākāṇḍa, 53rd sarga; Ayodhyā-		

Loha occurs in the Atharvaveda,¹⁴⁴⁵ the White Yajurveda,¹⁴⁴⁶ the Black Yajurveda¹⁴⁴⁷ and in the Chāndogya Upaniṣad.¹⁴⁴⁸ The words Lohamaya and Lohāyasa occur in the Śatapatha Brāhmaṇa.¹⁴⁴⁹ According to Schrader¹⁴⁵⁰ loha originally meant copper but later it was used to denote iron. Śyāma is mentioned in the Atharvaveda,¹⁴⁵¹ apparently meaning iron as the word occurs along with asi meaning a sword. It is also mentioned in the White Yajurveda,¹⁴⁵² Black Yajurveda,¹⁴⁵³ Kāṭhaka Samhitā,¹⁴⁵⁴ Kapiṣṭhala Samhitā¹⁴⁵⁵ and in the Maitrāyaṇī Samhitā.¹⁴⁵⁶

We have distinct references to the iron-smelter¹⁴⁵⁷ and the blacksmith.¹⁴⁵⁸ The Maitrāyaṇa-Brāhmaṇa Upaniṣad¹⁴⁵⁹ thus describes the work of the blacksmith :—"Even as a ball of iron pervaded (overcome) by fire and hammered by smiths, becomes manifold (assumes different forms such as crooked, round, large, small) thus the Elemental Self pervaded (overcome) by the inner man and hammered by the qualities becomes manifold." The softening of silver by means of gold, of tin by means of silver, of lead by means of tin, of loha (iron) by means of lead was also known.¹⁴⁶⁰ Whatever be the real meaning of *ayas*, *loha* and *śyāmam* these metals were extensively used in this period. Thus we read of receptacle that has been hammered or formed with a tool of *ayas*,¹⁴⁶¹ metal vessels,¹⁴⁶² metal jug,¹⁴⁶¹ a pair of shears with sharp blades,¹⁴⁶³ sickle to cut the ripened grain,¹⁴⁶⁴ knife,¹⁴⁶⁵ spade to dig up the hardest soil

¹⁴⁴⁵ XI. 3. 17.

¹⁴⁴⁶ XVIII. 13.

¹⁴⁴⁷ IV. 7. 5.

¹⁴⁴⁸ IV. 17. 7.

¹⁴⁴⁹ V. 4. 12 ; XIII. 2. 2. 8.

¹⁴⁵⁰ Prehistoric Antiquities, p. 212.

¹⁴⁵¹ IX. 5. 4 ; XI. 3. 7.

¹⁴⁵² XVIII. 13.

¹⁴⁵³ IV. 7. 5.

¹⁴⁵⁴ XVIII. 10.

¹⁴⁵⁵ XVIII. 10.

¹⁴⁵⁶ II. 11. 5.

¹⁴⁵⁷ White Yajurveda, XXX. 14.

¹⁴⁵⁸ Ibid., XVI. 27.

¹⁴⁵⁹ III. 3.

¹⁴⁶⁰ Chāndogya Upaniṣad, IV. 17. 7.

¹⁴⁶¹ White Yajurveda, XXVI. 26.

¹⁴⁶² Bṛhadāraṇyaka Upaniṣad, VI. 4. 13 ;
Rāmāyaṇa, Ajodhyākāṇḍa, 33rd
sarga ; Sundarakāṇḍa, 11th sarga.

¹⁴⁶³ Atharvaveda, XX. 127. 4.

¹⁴⁶⁴ White Yajurveda, XII. 68.

¹⁴⁶⁵ Ibid., IV. 1 ; VI. 11.

(evidently of metal,¹⁴⁶⁶ *dātra*, bill hook,¹⁴⁶⁷ hatchet,¹⁴⁶⁸ iron axe,¹⁴⁶⁹ iron hook,¹⁴⁷⁰ iron razor¹⁴⁷¹ with razor-case,¹⁴⁷² pair of nail scissors,¹⁴⁷³ iron nets,¹⁴⁷⁴ letters wrought of iron,¹⁴⁷⁵ *louha-mañjuṣṭ*, iron box or trunk¹⁴⁷⁶ and collyrium-pots, probably made of metal.¹⁴⁷⁷ Among articles for use in sacrifice we read of the sacrificial hatchet,¹⁴⁷⁸ sickle to cut and trim the sacred grass,¹⁴⁷⁹ lead needles (according to the commentator Mahidhara copper or iron needles) to mark out the lines on the body of the sacrificial horse which the dissector's knife is to follow,¹⁴⁸⁰ bell, evidently made of metal¹⁴⁸¹ and threads of iron for use in amulets.¹⁴⁸² Among articles for purposes of war we read of *phāla*, blade of an arrow,¹⁴⁸³ sword,¹⁴⁸⁴ *varman*, armour, coat of mail,¹⁴⁸⁵ armour for elephants and horses,¹⁴⁸⁶. Iron forts¹⁴⁸⁷ and iron castles¹⁴⁸⁸ used in a

Aitareya Āraṇyaka Upaniṣad, III. 1. 4; *khanitra*, hoe, spade in Rāmāyaṇa, Ayodhyākāṇḍa, 37th sarga; *taṅka*, hoe, spade in Ibid., 80th sarga.

¹⁴⁶⁷ Ayodhyākāṇḍa, 80th sarga.

¹⁴⁶⁸ Chāndogya Upaniṣad, VI. 16. 1.

¹⁴⁶⁹ Atharvaveda, VII. 115. 1; VI. 141. 2; II. 12. 3; White Yajurveda, V. 42; VI. 15; Rāmāyaṇa, Bālākāṇḍa, 54th sarga; Ayodhyākāṇḍa, 80th sarga.

¹⁴⁷⁰ Atharvaveda, VII. 115. 1.

¹⁴⁷¹ Ibid., VI. 68. 1, 3; White Yajurveda, III. 63; XV. 4; Bṛhadāraṇyaka Upaniṣad, III. 3. 2; Kauṣītaki Upaniṣad, IV. 20. Compare "Just as the sharp edge of a razor is difficult to pass over, thus the wise say the path (to Self) is hard" — Kauṣhopaniṣad, I. 3. 14.

¹⁴⁷² Kauṣītaki Upaniṣad, IV. 20.

¹⁴⁷³ *Kārṣṇāyaṣam* in Chāndogya Upaniṣad, VI. 1. 6.

¹⁴⁷⁴ Atharvaveda, XIX. 66. 1.

Ibid., VI. 63. 2; VI. 84. 3. White Yajurveda, XII. 63.

Rāmāyaṇa, Bālākāṇḍa, 67th sarga; cf. *Peṭaka* in Ajodhyākāṇḍa, 36th and 37th sargas.

¹⁴⁷⁷ Ayodhyākāṇḍa, 91st sarga.

¹⁴⁷⁸ Atharvaveda, VII. 28.

¹⁴⁷⁹ Ibid., XII. 3. 31; cf. Black Yajurveda, I. 1. 2.

¹⁴⁸⁰ White Yajurveda, XXIII. 37.

¹⁴⁸¹ Maitrāyaṇī-Brāhmaṇa Upaniṣad, VI. 22.

¹⁴⁸² Atharvaveda, V. 28. 1.

¹⁴⁸³ Rāmāyaṇa, Ayodhyākāṇḍa, 36th sarga.

¹⁴⁸⁴ Kauṣhopaniṣad, II. 6. 4; Rāmāyaṇa, Bālākāṇḍa, 54th sarga; Ayodhyākāṇḍa, 23rd, 43rd and 52nd sargas. Atharvaveda, V I. 118. 1; VIII. 5. 18; IX. 2. 16; XIX. 58. 4; XX. 18. 6; White Yajurveda, XIII. 35; XVII. 49; XXIX. 38, 45; Rāmāyaṇa, Ayodhyākāṇḍa, 40th and 91st sarga.

¹⁴⁸⁵ Rāmāyaṇa, Lankākāṇḍa, 75th sarga.

¹⁴⁸⁷ Atharvaveda, XIX. 58. 4.

¹⁴⁸⁸ White Yajurveda, V. 8.

figurative sense are also mentioned. Pillars made of iron,¹⁴⁸⁹ ornaments made of iron worn by king Trisāṅku in his chandāla dress¹⁴⁹⁰ and images of tigers made of various metals¹⁴⁹¹ are also mentioned.

We also read of the use of mixed metals (yongikadhātu) in this age. Bell-metal (kāṁśya) vessels, made of an alloy of copper and tin are mentioned in the Chāndogya Upaniṣad.¹⁴⁹² In the Rāmāyaṇa¹⁴⁹³ we are told that after the marriage ceremony of his sons was over, king Daśaratha on reaching home presented four Brahmins with cows together with calves and bell-metal vessels for milching (kāṁśya-dohanabhāṇḍa). Vessels made of brass or pittala, an alloy of copper and zinc are mentioned in the Maitrāyaṇa-Brāhmaṇa Upaniṣad.¹⁴⁹⁴ In the Rāmāyaṇa¹⁴⁹⁵ we find a reference to brass when Khara angrily speaks to Rāma thus : “Just as the gold-like pittala (brass) is blackened when put to fire, so are you showing only your hollowless by self-laudation.”

Whether alchemy was known in this period is not certain. Alchemy is the process by means of which an inferior metal is converted into a superior one. We find reference to this process in the 37th sarga of the Bālakāṇḍa of the Rāmāyaṇa where the origin of metals specially of gold (jātarūpa) is discussed. But some scholars look upon this passage as a later addition (prakṣipta).

The art of the jeweller — The maṇikāra or jeweller is mentioned in the list of human victims of Puruṣamedha in the White Yajurveda.¹⁴⁹⁶ In the Taittirīya Brāhmaṇa¹⁴⁹⁷ the word used for jewellery is kācha which may mean glass or glass-beads ; and it would be unreasonable to suppose that those who set glass on gold did not follow the same procedure with diamonds, and other precious stones for which they had names and which they knew and prized.¹⁴⁹⁸ When Bharata left Ayodhyā to bring back

¹⁴⁸⁹ Atharvaveda, VI. 63. 3.

¹⁴⁹⁰ Rāmāyaṇa, Bālakāṇḍa, 58th sarga.

¹⁴⁹¹ Ibid., Ayodhyākāṇḍa, 15th sarga.

¹⁴⁹² V. 2. 8.

¹⁴⁹³ Bālakāṇḍa, 72nd sarga.

¹⁴⁹⁴ VI. 22.

¹⁴⁹⁵ Aranyakāṇḍa, 29th sarga.

XXX. 7.

III. 665.

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R̥ma from the forest he was followed among others by the maṇikāra.¹⁴⁹⁹ As a matter of fact, the R̥māyaṇa which treats of royal families generally as contrasted with the ritual literature mentions a large number of jewellery used in this period. Thus we read of golden diadem (kirita) set with jewels and pearls,¹⁵⁰⁰ golden kuṇḍalas (earrings) set with diamonds and vaidūryamaṇi,¹⁵⁰¹ maṇikuṇḍala,¹⁵⁰² pearl necklace,¹⁵⁰³ necklace of Indranilamaṇi,¹⁵⁰⁴ necklace of precious stones strung together with a golden thread,¹⁵⁰⁵ necklace of vaidūryamaṇi,¹⁵⁰⁶ golden amulet set with vaidūryamaṇi,¹⁵⁰⁷ hastivarāṇa (bangles) set with corals,¹⁵⁰⁸ various images decked with gold, silver, diamonds, pearls and corals,¹⁵⁰⁹ images of birds decked with silver, coral and vaidūryamaṇi,¹⁵¹⁰ images of serpents decked with gems,¹⁵¹¹ golden seats decked with gems,¹⁵¹² seats decked with gold and gems,¹⁵¹³ bolster decked with various gems,¹⁵¹⁴ golden bedstead decked with gems,¹⁵¹⁵ bed-sheet decked with gems and vaidūryamaṇi,¹⁵¹⁶ crystal altar decked with various gems,¹⁵¹⁷ altars decked with white gems like indranilamaṇi and mahānilamaṇi,¹⁵¹⁸ fly-flapper (chūmara) decked with white gems,¹⁵¹⁹ chariot adorned with gems and corals,¹⁵²⁰ chariot mounted with gold and decked with jewels,¹⁵²¹ and silver pillars decked with gold, gems and pearls.¹⁵²²

We may refer in this connection to prākāśa which is frequently mentioned in the Taittirīya, Śatapatha and Pañchaviṃśa Brāhmaṇas. It means

1499	Rāmāyaṇa, Ayodhyākāṇḍa, 83rd sarga.	1510	Ibid., 7th sarga.
1500	Ibid., Kiṣkindhyākāṇḍa, 10th sarga.	1511	Ibid.
1501	Ibid.	1512	Ibid., 11th sarga.
1502	Bālakāṇḍa, 14th sarga.	1513	Kiṣkindhyākāṇḍa, 50th sarga.
1503	Ayodhyākāṇḍa, 9th sarga; Kiṣkindhyākāṇḍa, 40th sarga; Sundarakāṇḍa, 9th sarga; Lankākāṇḍa, 130th sarga.	1514	Ayodhyākāṇḍa, 76th sarga; Kiṣkindhyākāṇḍa, 50th sarga.
1504	Sundarakāṇḍa, 15th sarga.	1515	Sundarakāṇḍa, 11th sarga.
1505	Ayodhyākāṇḍa, 32nd sarga.	1516	Ibid., 10th sarga.
1506	Sundarakāṇḍa, 9th sarga.	1517	Ibid.
1507	Araṇyakāṇḍa, 64th sarga.	1518	Ibid., 9th sarga.
1508	Sundarakāṇḍa, 15th sarga.	1519	Ayodhyākāṇḍa, 15th sarga.
1509	Ibid., 9th sarga.	1520	Lankākāṇḍa, 11th sarga.
		1521	Ayodhyākāṇḍa, 16th sarga; Araṇyakāṇḍa, 53rd sarga.
		1522	Sundarakāṇḍa, 9th sarga.

looking glass. Geldner thinks that *prāvepa* in *Maitrāyaṇī Saṃhitā*¹⁵²³ means the same thing. The Upaniṣads refer to polished mirrors¹⁵²⁴. The *Rāmāyaṇa* also refers to polished mirrors (*sunārjita darpaṇa*).¹⁵²⁵ To people acquainted with crystals and metal foil the idea of setting small plates of crystal on foil for the manufacture of looking glasses would be easy enough. Polished metal plates seem, however, to be more frequently used and in the present day orthodox people prefer them to foiled glass in connection with marriage and other religious ceremonies. Such plates are usually made of silver. The mirror mentioned in the *Śvetāśvatara Upaniṣad*¹⁵²⁶ was a metal disc.¹⁵²⁷ The ancient Egyptians preferred copper or an alloy of copper and tin; but the Hindus hold that alloy as impure and unfit for religious purposes. The word *kācha* for glass occurs in the *Taittirīya Brāhmaṇa*¹⁵²⁸ and seeing that the Ceylonese who borrowed all the arts of civilised life from the Hindus, make mention in the *Dwīpavaṃśa* of a "glass pinnacle" placed on the top of the Ruanwelle dagoba by Suidaitissa, brother of Dutugaimuna, in the second century B.C. and of a "glass mirror" in the third century B.C.¹⁵²⁹ and Pliny describes the glass of India being superior to all others from the circumstance of its being made of pounded crystal¹⁵³⁰ it would not be presumptuous to believe that it was, in ancient times used in India in the formation of looking glasses; but we have nothing as yet to show that mercury was used in fixing the foil on it. The looking glasses used in the decoration of the marble bath in the palace at Agra, were foiled with a film of lead and tin poured in a melted state in large glass globes which were afterwards broken to form small mirrors. This mode of foiling is still in common practice in many parts of India.

¹⁵²³ IV. 4. 8.

¹⁵²⁴ *Kāthopaniṣad*, II. 6. 5; *Śvetāśvatara Upaniṣad*, II. 14; *Aitareya Āraṇyaka Upaniṣad*, III. 2. 4. 10.

¹⁵²⁵ *Ayodhyākāṇḍa* 91st sarga.

¹⁵²⁶ II. 14.

¹⁵²⁷ "As a metal disc(mirror) tarnished by dust, shines bright again after

it has been cleansed, so is the one incarnate person satisfied and free from grief, after he has seen the real nature of the self (Max Muller's Translation in the S. B. E. Vol. XV. p. 242).

¹⁵²⁸ III. 665.

¹⁵²⁹ Tennet's Ceylon, I. p. 454.

¹⁵³⁰ Lib. XXXVI., C. 66.

(3) **Working in wood**—The ordinary carpenter made wooden vessels, implements and furniture for domestic as well as ritual use. Ladles of various kinds—the *sruva*¹⁵³¹ (small ladle used specially for Soma libation), the *sruc*¹⁵³² (large wooden ladle), *dhruvā*¹⁵³³ (having the largest bowl used in pouring libations of clarified butter into fire), the *juhu*¹⁵³⁴ and the *upabhr̥t*¹⁵³⁵ are frequently mentioned. Wooden mace used in sacrifice,¹⁵³⁶ wooden sacrificial spade¹⁵³⁷ with which earth is to be dug to form two square beds for the chief cauldron called *mahāvira* and *gharma* to rest on, large wooden soma reservoir called *droṇa-kalasa*,¹⁵³⁸ four-cornered sacrificial cups of *khadira* wood¹⁵³⁹ mortar-shaped cup of *palāśa* wood¹⁵⁴⁰ cup made of *udumvara* wood,¹⁵⁴¹ wooden soma cups,¹⁵⁴² wooden covers for sacrificial vessels,¹⁵⁴³ wooden mortar¹⁵⁴⁴ and pestle¹⁵⁴⁵ for extracting soma juice, wooden mortar and pestle for pounding out rice,¹⁵⁴⁶ wooden pegs or wedges with which the pressing stones are beaten¹⁵⁴⁷ wooden pegs for stretching out skin or woven cloth¹⁵⁴⁸ wooden needles used in stitching together the folding doors of the cart-shed,¹⁵⁴⁹ fire-shovel or poker made of *palāśa* wood,¹⁵⁵⁰ wooden instrument called *sphya*, shaped like a sword used in stirring up boiled rice, drawing lines on the ground and other sacrificial purposes,¹⁵⁵¹ *yūpas* or sacrificial

¹⁵³¹ White Yajurveda, I. 29; II. 20; XVII. 77; Bṛhadāranyaka Upani- VI. 3. 13.

¹⁵³² White Yajurveda, I. 29; II. 20; XVII. 79.

¹⁵³³ Atharvaveda, XVIII. 5; Black Yajurveda, III. 5. 7.

¹⁵³⁴ Atharvaveda, V. 17. 5; XVIII. 5; Black Yajurveda, III. 5. 7.

¹⁵³⁵ Atharvaveda, XVIII. 5; Black yajurveda, III. 5. 7. 2. Atharvaveda, VII. 28.

¹⁵³⁷ White Yajurveda, V. 22; XI. 10; XXXVII. 1; Aitareya Āraṇyaka III. 1. 4.

¹⁵³⁸ White Yajurveda, VII. 29; VIII. 42; XIX. 27; Black Yajurveda, III. 1. 6. 1.

¹⁵³⁹ White Yajurveda, VIII. 33.

¹⁵⁴⁰ Ibid., XIX. 33.

¹⁵⁴¹ Bṛhadāranyaka Upaniṣad, VI. 3. 1; VI. 3. 13.

¹⁵⁴² White Yajurveda, XIX. 27.

¹⁵⁴³ Atharvaveda, XV. 11. 4. 53.

¹⁵⁴⁴ White Yajurveda, I. 14; XIII. 33.

¹⁵⁴⁵ Ibid., I. 15; XIII. 33.

¹⁵⁴⁶ Atharvaveda, XII. 15.

¹⁵⁴⁷ White Yajurveda, I. 16.

¹⁵⁴⁸ Ibid., V. 16.

¹⁵⁴⁹ Ibid., V. 21.

¹⁵⁵⁰ Ibid., I. 17.

¹⁵⁵¹ Ibid., I. 24; Black Yajurveda, I. 1. 9.

posts,¹⁵⁵² timber posts called svaru,¹⁵⁵³ drupad¹⁵⁵⁴ and vanaspati¹⁵⁵⁵ (evidently a dressed and entire śāla trunk) are referred to.

Mention is also made of seats made of udumvara wood¹⁵⁵⁶ and of thrones of khadira wood.¹⁵⁵⁷ Among these the tālpa is thus described in the Atharvaveda :

“Bhaga hath formed the four legs of the tālpa,
Wrought the four pieces that compose the frame-work.
Tvaṣṭar (skilled carpenters) hath decked the straps
that go across it.¹⁵⁵⁸

Being the nuptial bed-stead¹⁵⁵⁹ it was usually made of udumvara wood.¹⁵⁶³ The pīṭha (alluded to in the mention of pīṭhasarpin¹⁵⁶¹ cripple) was evidently a wooden seat. The epithet proṣṭha-śāya¹⁵⁶² shows that proṣṭha was something like a high and broad bench.¹⁵⁶³ In the Taittirīya Brāhmaṇa¹⁵⁶⁴ proṣṭha is, therefore, distinguished from tālpa and vahya. As the name suggests vahya is a couch of light structure that could be carried about when necessary ; it seems to have been an essential item of furniture for the bridal chamber,¹⁵⁶⁵ having an embroidered coverlet.¹⁵⁶⁶ Āsandi which means either a shining seat or the occupier of a shining seat is referred to in the Atharvaveda in connection with not only the inauguration of the Vrātya chief¹⁵⁶⁷ but also a marriage-ceremony.¹⁵⁶⁸ In the White Yajurveda¹⁵⁶⁹ āsandi is specially associated with kingship, being

¹⁵⁵² Atharvaveda, VII. 30 ; XII. 1. 38 ;
XII. 3. 33 ; White Yajurveda, Bk.
V. 41-43 and Bk. VI. 1-6 ; Black
Yajurveda, VI. 6. 4. ; Rāmāyaṇa,
Bālakāṇḍa, 14th sarga. Aitareya
Brāhmaṇa II. 1 ; Kauṣītaki Brāh-
maṇa, X. 1.
¹⁵⁵³ Atharvaveda, IV. 24. 4 ; XII. 1. 13.
¹⁵⁵⁴ Ibid, VI. 63. 3 ; VI. 115. 2 ; XIX.
47. 9 ; White Yajurveda, XX. 20.
¹⁵⁵⁵ Ibid., IX. 3. 11 ; Black Yajurveda,
VI. 2. 8. 4.
¹⁵⁵⁶ Aitareya Āraṇyaka, I. 2. 4. 10.
¹⁵⁵⁷ White Yajurveda, X. 26.
¹⁵⁵⁸ Atharvaveda, XIV. 1. 60.

¹⁵⁵⁹ Ibid., XIV. 1. 31.
¹⁵⁶⁰ Taittirīya Brāhmaṇa, I. 2. 6. 5.
¹⁵⁶¹ White Yajurveda, XXX. 21 ; Black
Yajurveda, III. 4. 17. 1.
¹⁵⁶² Atharvaveda, IV. 5. 3 = Rigveda,
VII. 55. 8.
¹⁵⁶³ Compare vernacular piṭhā, a broad
plank resting on two legs in the
Gangetic river boats.
¹⁵⁶⁴ II. 7. 17. 1.
¹⁵⁶⁵ Atharvaveda, IV. 20. 3.
¹⁵⁶⁶ Ibid., XIV. 2. 30.
¹⁵⁶⁷ Ibid., XV. 3. 2. ff.
¹⁵⁶⁸ Ibid., XIV. 2. 6.
¹⁵⁶⁹ XIX. 86.

regarded as the 'womb of *rājanyas*'¹⁵⁷⁰ and its use in ritual by a sacrificial priest ensures *saṃrājya* for his client¹⁵⁷¹; but the qualificatory term *rājāsandi*¹⁵⁷² shows that the humbler *āsandi*'s were also in use. The *āsandi* is usually made of sacred *udumvara* wood,¹⁵⁷³ sometimes of *khadirawood*.¹⁵⁷⁴ It had four legs¹⁵⁷⁵ It was sometimes square,¹⁵⁷⁶ and sometimes rectangular¹⁵⁷⁷ in shape. It was sometimes a span high,¹⁵⁷⁸ sometimes knee high¹⁵⁷⁹ or navel high.¹⁵⁸⁰ The *Vrātya* chief's *āsandi* described in the *Atharvaveda*¹⁵⁸¹ had framework of wood and woven straps, two (fore) feet, two (back) feet; two lengthwise and two crosswise pieces; forward and cross tantus (wooven straps or cords), and *upśraya*, the support or back of the seat; its adjuncts were *āstarāṇa*, coverlet, *āsāda*, seat proper i.e., the cushion for sitting on, and *upvarhāṇa*, cushion for leaning against. The *paryāṇka* is a later development being first mentioned in the later Vedic texts.¹⁵⁸² It had four legs and was furnished with *śīrṣanya*, head-piece of the couch, *upaśrī*, the supporting back of the couch and *ucchīrṣaka*, cushion and pillow for the head.

In addition to the ordinary carpenter we find the *Rathakāra*¹⁵⁸³ who besides making chariots for purposes of war¹⁵⁸⁴ and race made carts,¹⁵⁸⁵ waggons¹⁵⁸⁶ and carriages.¹⁵⁸⁷ References to boats¹⁵⁸⁸

¹⁵⁷⁰ Cf. also White Yajurveda, XX 1.

¹⁵⁷¹ Black Yajurveda VII. 5. 8. 5.

¹⁵⁷² White Yajurveda, XIX. 16.

¹⁵⁷³ *Aitareya Brāhmaṇa*, VIII. 5, 6, 12 and 17, *Satapatha Brāhmaṇa* III. 4. 26 ff; V. 2. 1. 22; VI. 7. 1. 12ff; XIV. 1. 3. 8ff.

¹⁵⁷⁴ *Satapatha Brāhmaṇa*, V. 4. 4. 1 ff.

¹⁵⁷⁵ *Aitareya Brāhmaṇa*, VIII. 12 and 17; *Kauṣītaki Upaniṣad*, I. 5; *Sāṅkhyāyana Āraṇyaka*, III.,

¹⁵⁷⁶ *Satapatha Brāhmaṇa*, VI. 7. 1. 12 ff; *Aitareya Brāhmaṇa*, VIII. 5 and 6.

¹⁵⁷⁷ *Aitareya Brāhmaṇa*, VIII. 12.

¹⁵⁷⁸ *Satapatha Brāhmaṇa*, VI. 7. 1. 12ff.

¹⁵⁷⁹ *Ibid.*, XII. 8. 3. 4ff.

¹⁵⁸⁰ *Ibid.*, III. 3. 4. 26ff.

XV. 3. 2ff.

Kauṣītaki Upaniṣad, I. 5; *Sāṅkhyāyana Āraṇyaka*, III Compare *Jaim. Brāh.* II. 24.

¹⁵⁸³ *Atharvaveda*, III 5. 6.

¹⁵⁸⁴ White Yajurveda, XXIX. 45.

¹⁵⁸⁵ *Ibid.*, I. 8; II. 19; IV. 33.

¹⁵⁸⁶ Black Yajurveda, I. 8. 18; *Bṛhadāraṇyaka Upaniṣad*, IV. 4. 1. 35.

¹⁵⁸⁷ *Atharvaveda*, XX. 125. 3; White Yajurveda, XII. 30; *Bṛhadāraṇyaka Upaniṣad*, IV. 2. 1.

¹⁵⁸⁸ *Atharvaveda*, II. 36. 5; III. 6. 7; IV. 33. 7, 8; V. 4. 4; V. 19. 18; XX. 46. 2; XX. 72. 1; Black Yajurveda, V. 3. 10. 1; *Aitareya Āraṇyaka* I. 2. 4. 6. etc.

presuppose the existence of boat builders. Boats of bigger size, having two rudders (nau-maṇḍa)¹⁵⁸⁹ came to be known in this period.

The Rāmāyaṇa refers to specialised carpenters¹⁵⁹⁰ and to the manufacture of boxes (peṭaka)¹⁵⁹¹ wooden sandals¹⁵⁹² and artificial hills made of wood.¹⁵⁹³

(4) **Leather-work**—The hide-dresser is mentioned in the White Yajurveda¹⁵⁹⁴ and the Aitareya Brāhmaṇa¹⁵⁹⁵ seems to refer to the stretching of hides with pegs, while the Śvetāśvatara Upaniṣad¹⁵⁹⁶ refers to the rolling up of hides. The importance of the hide-dresser is evident from the fact that skins of aja (goat) kṛṣṇasāra (the black antelope), hariṇa (deer) and the eta (spotted deer) were in common and ritual use. Thus the religious student (brahmacārī) is clad in the black antelope skin.¹⁵⁹⁷ The gods dressed in deer skins¹⁵⁹⁸ used to alarm their enemies.¹⁵⁹⁸ The Kukundhas and the Kukūrabhas used to dress themselves in hides and skins.¹⁵⁹⁹ Skins of deer were used as coverings¹⁶⁰⁰ and as seat-spreads.¹⁶⁰¹ According to ritual custom the Brahmin priest goes clad in goat's skin.¹⁶⁰² Goat skin was also used as coverlet for āsandi's.¹⁶⁰³ A tradition of wearing cowhides in primitive times is hinted in a passage of the Śatapatha Brāhmaṇa.¹⁶⁰⁴ Cowhide also served as a ritual seat for the newly married couple. The skin of the black antelope was used as coverlet for āsandi's¹⁶⁰⁵ as well as for pressing soma and bruising and husking the rice used in oblations.¹⁶⁰⁶ The tiger-skin was used as

¹⁵⁸⁹ Śatapatha Brāhmaṇa, II. 3. 3. 15.

¹⁵⁹⁰ Ayodhyākāṇḍa, 83rd sarga.

¹⁵⁹¹ Ibid., 36th and 37th sargas.

¹⁵⁹² Ibid., 91st sarga.

¹⁵⁹³ Sundarakāṇḍa 6th sarga.

¹⁵⁹⁴ XXX, 15.

¹⁵⁹⁵ V. 15 ; compare Griffith's White Yajurveda, p. 43 fn.

¹⁵⁹⁶ VI. 20.

¹⁵⁹⁷ Atharvaveda, XI. 5. 5.

¹⁵⁹⁸ Ibid., V. 21. 7.

¹⁵⁹⁹ Ibid., VIII. 6. 11.

¹⁶⁰⁰ Ibid., IV. 7. 6.

¹⁶⁰¹ Rāmāyaṇa, Aranyakāṇḍa, 43rd sarga.

¹⁶⁰² Śatapatha Brāhmaṇa, III. 9. 1. 12.

¹⁶⁰³ Ibid., V. 2. 1. 22.

¹⁶⁰⁴ Ibid., III. 1. 2. 13ff.

¹⁶⁰⁵ Ibid., XII. 8. 3. 4-10.

¹⁶⁰⁶ Atharvaveda, XI. 1. 8. See also Griffith's Atharvaveda, Vol. II. p. 52 fn.

coverlet for āsandī's¹⁶⁰⁷ and for chariots.¹⁶⁰⁸ Lion skins were also used for covering chariots.¹⁶⁰⁹

Besides the hide-dresser, leather-worker (carmaśilpī)¹⁶¹⁰ is also mentioned. Leather-bags were used for holding milk, wine and other liquids¹⁶¹¹ and dry skin-bags sometimes formed part of sacrificial fee.¹⁶¹² The ritual shoes mentioned in the Black Yajurveda¹⁶¹³ were made of black antelope skins while the ritual shoes mentioned in the Śatapatha Brāhmaṇa¹⁶¹⁴ and in the Kauṣītaki Brāhmaṇa¹⁶¹⁵ were made of boar-skin.

(5) **Pottery**—The potter is frequently mentioned¹⁶¹⁶ Among the earthen pots made by him we find sthālī, cooking pot which occurs in the Atharvaveda and the Brāhmaṇas; āsecana, vessel to hold liquids such as meat-juice (Yūṣan)¹⁶¹⁷; and ukhā, a cooking pot which is described clearly as mṛṇmaya in the White Yajurveda.¹⁶¹⁸ The Rāmāyaṇa also mentions sthālī, kumbhī and karambhī filled with curds.¹⁶¹⁹ Broken liquor-pots are also referred to¹⁶²⁰

(6) **Ivory work**—The Rāmāyaṇa mentions altars¹⁶²¹ and seats made of ivory,¹⁶²² legs of bedsteads made of ivory and gold,¹⁶²³ pillars and windows (of Rāvaṇa's palace) made of ivory,¹⁶²⁴ and images of ivory placed in chariots.¹⁶²⁵

¹⁶⁰⁷ Śatapatha Brāhmaṇa, V. 4. 4. 1 ff ;

Āitareya Brāhmaṇa, VIII. 5 and 6.

¹⁶⁰⁸ Rāmāyaṇa, Ayodhyākāṇḍa, 16th sarga;
Sundarakāṇḍa, 6th sarga.

¹⁶⁰⁹ Ibid., Sundarakāṇḍa, 6th sarga.

¹⁶¹⁰ Ibid., Bālakāṇḍa, 13th sarga. See
also carmachchedaka in Ayodhyā-
kāṇḍa, 89th sarga

¹⁶¹¹ Pañchaviṃśa Brāhmaṇa, XIV. 11.
26 ; XVI. 13. 13.

¹⁶¹² Black Yajurveda, I. 8. 19.

¹⁶¹³ V. 4. 4. 4 ; V. 6. 6. 1.

¹⁶¹⁴ V. 4. 3. 19.

¹⁶¹⁵ III. 3.

¹⁶¹⁶ White Yajurveda, XVI. 27 ; XXX.
7 ; Maitrāyaṇī Saṃhitā, I. 8. 3.

¹⁶¹⁷ Rigveda, I. 162. 12.

¹⁶¹⁸ XI. 59 ; see also Black Yajurveda,
IV. 1. 5. 4 ; Atharvaveda, IX. 6. 17.

¹⁶¹⁹ Ayodhyākāṇḍa, 91st sarga.

¹⁶²⁰ Ibid., 114th sarga.

¹⁶²¹ Ayodhyākāṇḍa, 10th sarga.

¹⁶²² Ibid.

¹⁶²³ Sundarakāṇḍa, 10th sarga.

¹⁶²⁴ Aranykāṇḍa, 55th sarga.

¹⁶²⁵ Sundarakāṇḍa, 6th and 9th sargas.

(7) **Manufacture of liquor**—The sacred sacrificial drink obtained from the Soma plant was highly prized in this period as none of the principal religious rites such as the Darśa, Pūrṇamāsa, Jyotiṣṭoma, Ukthya, Vājapeya, Atirātra, Āptaryāma etc., could be celebrated without it. It is no wonder, therefore that the Black Yajurveda¹⁶²⁶ furnishes innumerable mantras for repetition at every stage of its manufacture. It is not necessary to describe here in any detail¹⁷⁷² the several steps in its manufacture ; suffice it to say that it was made with the expressed juice of the Soma creeper, diluted with water, mixed with barley meal, clarified butter and the meal of wild paddy (nivāra) and fermented in jar for nine days.¹⁶²⁸ It seems that the starch of the two kinds of meal (barley and wild paddy) supplied the material for the vinous fermentation and the Soma juice served to promote vinous fermentation, flavour the beverage and check acetous decomposition in the same way that hop does in beer. Its intoxicating effects as noticed in the Rigveda have already been described. In the Black Yajurveda we find a story in which a sage Viśvarūpa by name, son of Tvaṣṭu while engaged at the Soma sacrifice is said to have indulged so inordinately in the exhilarating beverage as to have vomited on the animals brought before him for immolation.

In a distilled condition the Soma would be of no use and as it was not distilled it could not be kept for any great length of time. Accordingly no Soma juice was used when arrack was distilled from fermented meal. This fermented barley or wild paddy meal when distilled was called surā which was known, as we have already seen, early in the Rigvedic Age. It was used as an article of offering to the Gods in two important rites, namely, Sautrīmāṇi and the Vājapeya. According to Baudhāyana and Kātyāyana three articles are used in its preparation viz. sprouting paddy, the sprout brought on by steeping paddy in water, slightly parched barley steeped in curds and diluted butter milk, and coarse powder of the same steeped in whey. After proper fermentation, this was distilled in the usual way. Unfortunately we do not get any description in contem-

¹⁶²⁶ I. 2-4 ; VI. 1-4.

¹⁶²⁸ Stevenson's Sāmaveda, p. 5 ; Haug's Aitareya Brāhmaṇa I., p. 6.

¹⁶²⁷ The Kalpasūtras and the Somaprayoga supply the details.

porary literature, of the still in which the distillation was effected, the Taittiriya Brāhmaṇa suppling only a number of mantras for the preparation of the liquor. Another drink known as Kilāla was probably a variety of surā while Parisrut was a drink made from flowers.¹⁶²⁹

The Rāmāyaṇa¹⁶³⁰ refers to surā which oozes spontaneously from trees (tāṇḍi ?) and different varieties of madya prepared by the Śaundika of which Vārūṇi¹⁶³¹ and Maireya¹⁶³² were famous.

(8) **Painting**—Frescoes (patibhāna or conversation-pictures i.e., love-scenes) are mentioned in the oldest Pali literature and the very fact that Buddha prohibited these paintings and permitted only the representation of wreaths and creepers shows the pre-Buddhist origin of painting. The Kathopaniṣad¹⁶³³ refers by way of simile to pictures (light and shade) and to the painter's brush¹⁶³⁴ while the Maitrāyaṇa-Brāhmaṇa Upaniṣad¹⁶³⁵ refers by way of simile to a painted wall. The Rāmāyaṇa refers not only to painters (citraśilpavid)¹⁶³⁶ but also to rooms (of Rāma's Mahal in Ayodhyā) adorned with pictures made by skilful artists.¹⁶³⁷ Picture-galleries¹⁶³⁸ are also mentioned.

(9) **Sculpture**—Sculptured images on wooden posts are as old as the Rigveda.¹⁶³⁹ The Atharvaveda refers to decorated and inlaid (piś) bowls like the starry night¹⁶⁴⁰ and to carvings in relief of gods inside the bowl.¹⁶⁴¹ The Rāmāyaṇa refers to images of horses, birds, serpents and of Lakṣmī with her elephants carved on the aerial chariot of Rāvaṇa.¹⁶⁴²

¹⁶²⁹ Sāukhyāyana Gṛhyasūtra, III. 2. 9 ;
Pāraskara Gṛhyasūtra, III. 4. 4.
See also Zimmer—Altindisches
Leben, p. 281.

¹⁶³⁰ Sundarakāṇḍa, 11th sarga.

¹⁶³¹ Ayodhyākāṇḍa, 114th sarga.

¹⁶³² Ibid., 91st sarga ; Uttarakāṇḍa, 52nd
sarga.

¹⁶³³ II. 6. 5.

¹⁶³⁴ II. 6. 17.

¹⁶³⁵ IV, 2.

¹⁶³⁶ Uttarakāṇḍa, 107th sarga.

¹⁶³⁷ Ayodhyākāṇḍa, 15th sarga.

¹⁶³⁸ Citragṛha in Ayodhyākāṇḍa, 10th
sarga ; Citraśālā in Sundarakāṇḍa,
6th and 12th sargas.

¹⁶³⁹ IV. 32. 23.

¹⁶⁴⁰ Atharvaveda, XIX. 49. 8.

¹⁶⁴¹ Ibid., XII. 3. 33.

¹⁶⁴² Sundarakāṇḍa, 7th sarga.

(10) **Architecture**—The Atharvaveda ¹⁶⁴³ gives us a graphic account of a style of architecture which evidently refers to the ordinary type of a dwelling house in this period. According to it four pillars (upamit) were set up on a good site and against them beams were leant at an angle as props (pratimit). The upright pillars were connected by cross-beams (parimit) resting upon them. The roof was formed of ribs of bamboo (vaṇśa), a ridge called viṣūvant and akṣu, either the wicker-work or split bamboo-lining, over which the thatch was laid and to which the description of thousand-eyed ¹⁶⁴⁴ could aptly be applied or a net spread over the viṣūvant to keep the straw-bundles of the thatch in tact during stormy weather. The walls were filled up with straw or long reedy grass ¹⁶⁴⁵ and the whole structure was held together with ties of various sorts. ¹⁶⁴⁶ Besides the store-house of Soma, ¹⁶⁴⁷ the agni-śāla (the hall of the fire altar), ¹⁶⁴⁸ patnīnām sadana (ladies' apartments), ¹⁶⁴⁹ sadas (a shed erected in the sacrificial enclosure to the east of the Prācīnavamśa chamber, which had its supporting beam turned towards the east) ¹⁶⁵⁰ and covered verandahs (at least along the front and back as denoted by the term pakṣas) each house had a big store-room or sālā full of clean corn ¹⁶⁵¹ and sheds for sheep and cattle. ¹⁶⁵²

In the Black Yajurveda we find frequent mention of bricks* and of their use in the construction of fire-alters. Among the various forms of altar-bricks known to the people of this age, we may mention

¹⁶⁴³ Atharvaveda, IX. 3; III. 12.

¹⁶⁴⁴ Atharvaveda, IX. 3. 8.

¹⁶⁴⁵ Palāda, Atharvaveda, III. 12. 5; IX. 3. 5; palāva, Atharvaveda, XII. 3. 19; Jaiminiya Upaniṣad Brāhmaṇa, I. 54. 1; palāli Atharvaveda, II. 8. 3; palāla, Kauṣītaki Sūtra, LXXX. 27.

¹⁶⁴⁶ Saṃlambā, prāpāha, nahana, parivañjalya—Atharvaveda, IX. 3. 4, 5.

¹⁶⁴⁷ Atharvaveda, IX. 3. 7; IX. 6. 7.

¹⁶⁴⁸ Ibid., IX. 3. 7.

¹⁶⁴⁹ Ibid.

¹⁶⁵⁰ Ibid., IX. 6. 7.

Ibid., III. 12. 3.

As there is distinct mention of playful calves and children in the house in the Atharvaveda III. 12. 3. Compare Rigveda, VII. 56. 16. Moreover, the house is described as rich in horses and in kine (Atharvaveda, III. 12. 2) and as giving rest to man and beast (Atharvaveda, IX. 3. 17.)

* The first explicit mention of burnt (pakva) bricks occurs in the Satapatha Brāhmaṇa late in the 7th century B. C. (VI. 1. 2. 22; VII. 2. 1. 7.)

mandaleṣṭakā (circular bricks)¹⁶⁵³ vikarṇī, (cornerless bricks)¹⁶⁵⁴ coḍī (conical bricks)¹⁶⁵⁵ kumbheṣṭakā (pot bricks)¹⁶⁵⁶ and other bricks with various linear markings.¹⁶⁵⁷ Mortar (purīṣa) was used in making bricks firm and has therefore been aptly compared to flesh adhering to bones.¹⁶⁵⁸ Such adhesive plasters must have been essential in the construction of the alternative forms of the altar¹⁶⁵⁹ like the 'bird' styles (representing the śyena, karka or alaja) or the 'bowl' or granary (droṇa), 'chariot-wheel,' 'circle' 'cemetery' (śmaśāna) and 'triangle' models. It would be extraordinary if bricks were not used for the secular house-buildings as well, while altars (household or special) and cemeteries¹⁶⁶⁰ were brick-built.

The Śatapatha Brāhmaṇa describes at length the śmaśāna (funeral and memorial) structures and classifies them into vāstu, gṛhṇ and prajñānam.¹⁶⁶¹ The vāstu reliquary of bones etc., was built in two styles. The Prāeya or unorthodox type was round and domeshaped (parimaṇḍalā),¹⁶⁶² separate from the earth (i. e., towering), made of stone, instead of bricks¹⁶⁶³ and enclosed by an indefinite number of enclosing stones.¹⁶⁶⁴ The orthodox style of vāstu was square or quadrilateral,¹⁶⁶⁵ not separate from the earth,¹⁶⁶⁶ and made of bricks one foot square.¹⁶⁶⁷ The gṛhṇ¹⁶⁶⁸ was either an actual house with many rooms, erected over or beside the grave in memory of the deceased or chambers and vaults of subterranean or rock-cut caves.¹⁶⁶⁹ The prajñānam means a pillar-like memorial monument. A pillar (sthūpī) is indeed set up on the

¹⁶⁵³ Black Yajurveda, IV. 4. 5; V. 3. 9; etc.

¹⁶⁵⁴ Ibid., V. 3. 7.

¹⁶⁵⁵ Ibid., IV. 4. 3; V. 3. 7; etc.

¹⁶⁵⁶ Ibid., V. 6. 1; etc.

¹⁶⁵⁷ Ibid., V. 2. 3; V. 2. 10.

¹⁶⁵⁸ Ibid., V. 2. 3.

¹⁶⁵⁹ Ibid., V. 4. 11.

¹⁶⁶⁰ The direction that brick-altars could be erected after the model of (round or square) śmaśānas show that these latter were also brick-structures by the time of the Black Yajurveda.

¹⁶⁶¹ Śatapatha Brāhmaṇa XIII. 8. 1.

¹⁶⁶² Ibid.

¹⁶⁶³ Ibid., XIII. 8. 4. 11.

¹⁶⁶⁴ Ibid., XIII. 8. 2. 2.

¹⁶⁶⁵ Śatapatha Brāhmaṇa, XIII. 8. 1. 1ff.

¹⁶⁶⁶ Ibid., XIII. 8. 1. 1.

¹⁶⁶⁷ Ibid., XIII. 8. 4. 11.

¹⁶⁶⁸ Atharvaveda, XVIII. 3. 51 = Rigveda X. 18. 12; Atharvaveda, XVIII. 4. 37.

¹⁶⁶⁹ The Roman catacombs and Egyptian cave-graves offer instructive parallels.

Vedic grave¹⁶⁷⁰ and in the time of the Śatapatha Brāhmaṇa a stone¹⁶⁷¹ pillar (śanku) was set up along with three timber ones at the four corners of the śmaśāna.¹⁶⁷²

The great variety of names for doors¹⁶⁷³ and pillars¹⁶⁷⁴ shows that they were a marked feature of one other type of house-building, characterised by timber-work as opposed to bamboo, brick and stone work. This timber architecture seems to have been strengthened by the use of ayasthūpa's¹⁶⁷⁵ (pillars made of the metal called ayas) and parigha's¹⁶⁷⁶ so that it constituted a necessary earlier stage of architecture to account for the elaborate gold-plated and inlaid timber-pillars of the Mauryan palace.

(11) **Town planning**—Town-planning seems to have been known in this period. Mr. E. B. Havell¹⁶⁷⁷ remarks "The close connection of the geometrical system (denoted by the mystic figures Paramaśyika, Swastika, Sarvatobhadra, etc.,) with the Vedic sacrificial lore, and the position of the master-builder as high priest or sacrificial expert are indirect proofs of the great antiquity of the Indian science of town-planning; for, geometry as a science was an Indo-Aryan invention and had its origin in the complicated system of Vedic sacrifices in which it became necessary to

¹⁶⁷⁰ Atharvaveda, XVIII. 3. 52; Rigveda, X. 18. 3.

¹⁶⁷¹ According to the commentator made of vṛtra = stone.

¹⁶⁷² Compare the four pillars adjacent to stupas and later on to mediæval mausoleums.

¹⁶⁷³ Dvār (White Yajurveda, XXX. 10; Śatapatha Brāhmaṇa XI. 1. 1. 2); dvāra (Atharvaveda, X. 8. 43); durya (White Yajurveda, I. 11; Black Yajurveda, I. 6. 3. 1); duropa, signifying house itself (Atharvaveda, VI. 17. 3; White Yajurveda, XXXII. 72.)

¹⁶⁷⁴ Stbūpā (Atharvaveda, XIV. 1. 63; Śatapatha Brāhmaṇa XIV. 1. 3. 7);

sthūpā-rāja (Śatapatha Brāhmaṇa III. 1. 1. 11; III. 5. 1. 1; svaru (Atharvaveda, IV. 24. 4; XII. 1. 13); methi, with variants 'medhi,' 'methī,' or 'meṭhi' (Atharvaveda, VIII. 5. 20; XIV. 1. 40; Black Yajurveda, VI. 2. 9. 4; Kāthaka Samhitā XXXV. 8; Aitareya Brāhmaṇa I. 29. 22; Śatapatha Brāhmaṇa, III. 5. 3. 21; Pañcaviṃśa Brāhmaṇa XIII. 9. 17; Jaiminiya Brāhmaṇa I. 19. 1).

¹⁶⁷⁵ Rigveda, V. 62. 7, 8.

¹⁶⁷⁶ Chhāndogya Upaniṣad, II. 24. 6, 10, 15.

¹⁶⁷⁷ E. B. Havell—History of Aryan Rule in India, p. 25.

resolve geometrical problems such as constructing a circle equal in area to a square and vice-versa. The laying out of the Indo-Aryan village is treated in the Śilpaśāstras as the preparation of sacrificial ground. I have, therefore, considered it justifiable to refer it historically to the Vedic period and to connect it with the camp or fortified settlement of the early Aryan invaders." In a later volume Mr. Havell writes that subsequent investigations confirm his foregoing observations. He says "If it be true—as the Russian scholar Sheftdovich, asserts—that the Kassites who took Babylon in 1766 B. C. and established a dynasty there which lasted for 600 years were Aryans speaking Vedic Sanskrit whose chief god was Sūryya, Babylon must be regarded as a half-way house of the Aryan race in its march towards the Indus valley and some, at least of the early Aryan tribes must have acquired, before they entered India, not only the high spiritual culture which is reached in the Rigveda, but a prolonged experience of the civic arts, including architecture. Recent German excavations on the site of Babylon show that the science of building in Vedic times had advanced much further than has hitherto been suspected." (E. B. Havell—Ancient and Mediæval Architecture, p. 3.)

Indeed the plan of the towns and their denominations were identical with those of the geometrical figures that had to be drawn on the sacrificial altars. These figures suggested the plans and the names. And the description of the cities of Ayodhyā and Laṅkā as preserved in the Rāmāyaṇa seems to show that they were built according to a definite plan and are in wonderful agreement with the principles laid down in the later Śilpaśāstras. Thus we are told that the city of Laṅkā was situated on the top of a hill,¹⁶⁷⁸ surrounded on all sides by a wall¹⁶⁷⁸ and outside the wall was a ditch surrounding the city.¹⁶⁷⁸ The ancient town-planners were not slow to seize the slightest opportunity to make the city as picturesque as they could. Accordingly, in the ditch were carefully nurtured lotus and lily plants¹⁶⁷⁸ The ditch was spanned by bridges in front of each of the many gates which pierced the wall surrounding the city.¹⁶⁷⁸ Inside the city were roads which were broad and well-divided.¹⁶⁷⁸ There were rows of beautiful houses plastered with lime.¹⁶⁷⁸

The royal palace was surrounded by a wall pierced by many beautiful gates.¹⁶⁷⁹ It contained latāgrha,¹⁶⁷⁹ citrāsālā¹⁶⁷⁹ kṛīḍāgrha,¹⁶⁷⁹ kāmāgrha,¹⁶⁷⁹ divāvihāra-grha¹⁶⁷⁹ and even artificial mountains made of wood¹⁶⁷⁹ besides many orchards¹⁶⁷⁹ and gardens.¹⁶⁷⁹ The famous Aśoka forest with its rows of flower and fruit trees planted in their proper order by skilful silviculturists, its well excavated tanks with their beautiful steps, its raised seats, rest-houses and latāgrha's vied in beauty with the Nandana-kānana of Indra, the Garden of Brahmā or the Chaitra-ratha of Kuvera.¹⁶⁸⁰ Near the royal palace were the houses of Praśasta, Mahāpārśva, Kumbhakarna, Vibhīṣaṇa and other notables of the kingdom.¹⁶⁷⁹ The city also contained savīgrha's,¹⁶⁸¹ goṣṭhaśālā's¹⁶⁸¹ and yantrāgāra's.¹⁶⁸¹ In fact, the buildings were so faultlessly constructed that they appeared to have been made by Mayadīnava himself.¹⁶⁸² The city has, therefore, been described as a mind-wrought city in the air, of Viśwakarman.¹⁶⁷⁹ It is likened to a woman with the walls and ramparts for her thighs,¹⁶⁷⁸ the wide expanse of water (in the ditch) and the surrounding jungles for her clothes,¹⁶⁷⁸ the śataghñī (guns ?) and śūlāstra for her locks of hair,¹⁶⁷⁸ the palaces for her ornaments¹⁶⁷⁸ and the yantrāgāra's for her breasts.¹⁶⁸¹

Similarly, the city of Ayodhyā is said to have been built by Manu.¹⁶⁸³ It was twelve yojanas in length and three yojanas in breadth.¹⁶⁸³ It was surrounded by a deep moat, which made it difficult of access.¹⁶⁸³ It was divided by one broad road which was met by other fine streets all regularly watered.¹⁶⁸³ The city was founded on a plain¹⁶⁸³ and had many stout arched gates with large door-panels.¹⁶⁸³ In the middle of the city were rows of shops.¹⁶⁸³ In all quarters of the city were theatres, pleasure-gardens, mango-groves and avenues of śāla trees.¹⁶⁸³ Its innumerable palaces high like hills,¹⁶⁸³ sport-houses for ladies,¹⁶⁸³ tanks,¹⁶⁸³ chaityas,¹⁶⁸⁴ temples,¹⁶⁸⁴ yajñaśālās¹⁶⁸⁴ and pānaśālā's¹⁶⁸⁵ —all enhanced its beauty and magnificence. The buildings were not constructed in an irregular fashion, for, there was co-operation in alignment and structure (Suniveśitaveśmāntam).

¹⁶⁷⁹ Ibid., 6th sarga.

¹⁶⁸⁰ Ibid., Utarakāṇḍa, 52nd sarga.

¹⁶⁸¹ Ibid., Sundarakāṇḍa, 3rd sarga.

¹⁶⁸² Ibid., 7th sarga.

¹⁶⁸³ Ibid., Bālakāṇḍa, 5th sarga.

¹⁶⁸⁴ Ibid., Ayodhyākāṇḍa, 71st sarga.

¹⁶⁸⁵ Ibid., 100th sarga.

In consonance with this great attention to town-planning the people developed a high tone of civic consciousness. In the Rāmāyaṇa the city of Ayodhyā and everything in it fill the poet with delight. "He loses himself in the thought of its palaces, its arches and its towers. But it is when he comes to paint Lañkā that we reap the finest fruit of that civic consciousness which Ayodhyā had developed in him. There is nothing in all Indian literature, of greater significance for the modern Indian mind than the scene in which Hanuṃāna contends in the darkness with the woman who guards the gates saying in muffled tones "I am the city of Lañkā."*¹⁶⁸⁶ Such a civic sense was quite probable because the cities in ancient times were more than centres of trade and corporate life; they were the ultimate resorts of the people against hostile invasion.

The occupations—We have already seen that the Rigveda shows germs of a social division, arising out of the adoption of different occupations by different sections of the community. An idea as to the enormous extent to which division of labour was carried out in this period will be evident from the following list of principal occupations most of which are described in the White Yajurveda¹⁶⁸⁷ in connection with the victims of the Puruṣamedha ceremony :—

(a) *Agricultural occupations*—Besides the husbandman¹⁶⁸⁸ we hear of various agricultural labourers : (1) ploughman (kīṇasa, kṛṣīvala),¹⁶⁸⁹ (2) sower (vāpa),¹⁶⁹⁰ (3) one employed in husking (dhūnyakṛt)¹⁶⁹¹ and (4) woman employed in grinding corn (upalaprakṣiṇī)¹⁶⁹²

(b) *Industrial occupations*—Of those engaged in the various industrial arts the following are important : (5) smelter (dhmātr),¹⁶⁹³ (6) black-

* Ahaṇi hi nagarī Lañkā svayameva
plavaṅgama—Sundarakāṇḍa, 3rd
sarga.

¹⁶⁸⁶ Sister Niveditā—Civic and National
Ideals, pp 6-7.

¹⁶⁸⁷ Chapters XVI and XXX.

¹⁶⁸⁸ Atharvaveda, VI. 116. 1.

¹⁶⁸⁹ White Yajurveda, XXX. 11.

¹⁶⁹⁰ Ibid, 7.

¹⁶⁹¹ Ibid., XVI. 33.

¹⁶⁹² Rigveda, IX. 112. 3.

¹⁶⁹³ White Yajurveda XXX. 14. Com-
pare smelting of ores (aśman) in
Śatapatha Brāhmaṇa, VI. 1. 3. 5.

smith (karmāra),¹⁶⁹⁴ (7) arrow-maker (iṣukāra),¹⁶⁹⁵ (8) female scabbard-maker,¹⁶⁹⁶ (9) goldsmith (hiraṇyakāra, suvarṇakāra),¹⁶⁹⁷ (10) jeweller (maṇikāra),¹⁶⁹⁸ (11) carpenter (taṣṭr,¹⁶⁹⁹ takṣaka,¹⁷⁰⁰ sūtradhāra¹⁷⁰¹), (12) carver (peṣitr),¹⁷⁰² (13) chariotmaker (rathakāra),¹⁷⁰³ (14) bowmaker (dhanuṣkāra),¹⁷⁰⁴ (15) bowstring maker (jyākāra),¹⁷⁰⁵ (16) ropemaker (rajjukāra),¹⁷⁰⁶ (17) woman who splits cane,¹⁷⁰⁷ (18) basketmaker (vidalakāri),¹⁷⁰⁸ (19) woman who works in thorns,¹⁷⁰⁹ (20) weaver (vāya),¹⁷¹⁰ (21) weaver of rugs (kambala-kāra),¹⁷¹¹ (22) female weaver (vāyitrī),¹⁷¹² (23) woman who embroiders (peśakātrī),¹⁷¹³ (24) female dyer (rajayitrī),¹⁷¹⁴ (25) female ointment-maker,¹⁷¹⁵ (26) scent-maker (gandhajīvi),¹⁷¹⁶ (27) stone-carver (prakaritr),¹⁷¹⁷ (28) leather-worker (carmanna,¹⁷¹⁸ carma-

White Yajurveda, XVI. 27 ; Maitrāyaṇa Brāhmaṇa Upaniṣad, III. 3
White Yajurveda, XVI. 46 ; XXX. 17.

¹⁶⁹⁶ Ibid., XXX. 14.

¹⁶⁹⁷ Ibid., 17 ; Rāmāyaṇa, Ayodhyākāṇḍa, 83rd sarga ; Bṛhadāraṇyaka Upaniṣad, IV. 4. 4.

¹⁶⁹⁸ White Yajurveda XXX. 7 ; Rāmāyaṇa, Ayodhyākāṇḍa, 83rd sarga. Atharvaveda, X. 6. 3 ; White Yajurveda, XVI. 27 ; XXX. 6.

¹⁷⁰⁰ Rāmāyaṇa, Bālakāṇḍa, 13th sarga.

¹⁷⁰¹ Ibid., Ayodhyākāṇḍa, 80th and 83rd sargas.

¹⁷⁰² White Yajurveda, XXX. 12.

¹⁷⁰³ Ibid., XVI. 27 ; XXX. 6.

¹⁷⁰⁴ Ibid., XVI. 46 ; XXX. 7.

¹⁷⁰⁵ Ibid., XXX. 7.

¹⁷⁰⁶ Ibid. ; Black Yajurveda, VII. 2. 4. 2 ; compare Aitareya Āraṇyaka, I. 2. 3. 9-10.

¹⁷⁰⁷ White Yajurveda, XXX. 8.

¹⁷⁰⁸ Compare round mats of muñja grass for ritual use in White Yajurveda, XII. 2.

¹⁷⁰⁹ White Yajurveda, XXX. 5.

¹⁷¹⁰ See Vedic Index, sv. Vāya.

Rāmāyaṇa, Ayodhyākāṇḍa, 83rd sarga.

Pañchaviṃśati Brāhmaṇa, I. 8. 9 ; compare Śatapatha Brāhmaṇa, III. 1. 2. 13ff.

¹⁷¹³ White Yajurveda, XXX. 9.

¹⁷¹⁴ Ibid., 12.

¹⁷¹⁵ Ibid., 14.

¹⁷¹⁶ Rāmāyaṇa, Ayodhyākāṇḍa, 83rd sarga.

A remarkable feature found in the śmaśāna of the Śatapatha Brāhmaṇa is the regulation : "Let there be citras on the back of the 'Śmaśāna'" "for 'citras' mean offspring" (The commentator takes it as natural scenery ; this is absurd, specially as natural scenery is suggested as an alternative in the following lines). In the case of the stone-built round reliquary the most suitable citras would be sculptured figures in relief. It is interesting to compare the account in the Epic of the representation of the fertility goddess Jarā on the palace walls of the king of Girivraja, of a plump woman with children all around.

¹⁷¹⁸ White Yajurveda, XXX. 15.

śilpi,¹⁷¹⁹ carma-chehhedaka¹⁷²⁰) and (29) Potter (mr̥tpaca,¹⁷²¹ kumbhakāra¹⁷²²;

(c) *Priestly occupations*—The priestly class who earned their livelihood by officiating in sacrifices, by teaching the sacred lore or in other ways ministering to the spiritual needs of the community came to be divided into the following classes :—(30) the ṛtvig or hotṛ—the leading priest who while the sacrifice was being performed recited hymns of praise in honour of the particular god he was worshipping ; (31) the udgātṛ—the priest who sang the sāmāns or hymns in praise of the Soma plant hypostatised and regarded as god ; (32) adhvaryu—the priest who was concerned with the manual acts of sacrificing (33) astrologer (gaṇaka,¹⁷²³ nakṣatradarśa¹⁷²⁴), (34) weather-prophet (sakadhūnam),¹⁷²⁵ one who foretells the weather by the way in which smoke rises from a fire of cowdung and (35) physician (bhiṣak¹⁷²⁶ vaidyaka).¹⁷²⁷

(d) *Domestic and Menial occupations*—In addition to the above we find the (36) shepherd (avipala),¹⁷²⁸ (37) the cowherd (gopa),¹⁷³⁰ (38) goatherd (ajapāla),¹⁷³¹ (39) elephant-keeper (hastipa),¹⁷³² (40) horse-keeper (aśvapa),¹⁷³³ (41) driver of horses,¹⁷³⁴ (42) charioteers,¹⁷³⁵ (43) cook,¹⁷³⁶ (44) servant,¹⁷³⁷ (45) houseguard,¹⁷³⁸ (46) washerman,¹⁷³⁹

¹⁷¹⁹ Rāmāyaṇa, Bālakāṇḍa, 13th sarga.

¹⁷²⁰ Ibid., Ayodhyākāṇḍa, 80th sarga.

¹⁷²¹ White Yajurveda, XVI. 27, XXX. 7 ; Maitrāyaṇī Saṃhitā, I. 8. 3 ; Maitrāyaṇa Brāhmaṇa Upaniṣad, II. 6 ; III. 31.

¹⁷²² Rāmāyaṇa, Ayodhyākāṇḍa, 83rd sarga.

¹⁷²³ Ibid. Bālakāṇḍa, 13th sarga.

¹⁷²⁴ White Yajurveda, XXX. 10 ; XXX. 20.

¹⁷²⁵ Atharvaveda, VI. 1, 4. Compare Kauṣika Sūtra, XXX. 13. Bloomfield in American Journal of Philology, VII. pp. 484-88 ; Weber-Omina et Portenta, p. 363 ; Zimmer—Altindisches Leben, p. 353.

¹⁷²⁶ White Yajurveda, XXX. 10 ; Black Yajurveda, V. 4. 9. 2.

¹⁷²⁷ Rāmāyaṇa, Ayodhyākāṇḍa, 83rd sarga.

¹⁷²⁸ White Yajurveda, XXX. 11.

¹⁷²⁹ Ibid.

¹⁷³⁰ Ibid., XVI. 7.

¹⁷³¹ Ibid., XXX. 11.

¹⁷³² Ibid.

¹⁷³³ Ibid.

¹⁷³⁴ Ibid., XVI. 26.

¹⁷³⁵ Ibid.

¹⁷³⁶ Rāmāyaṇa, Ayodhyākāṇḍa, 80th sarga.

¹⁷³⁷ Ibid., Bālakāṇḍa, 13th sarga ; White Yajurveda, XXX. 13.

¹⁷³⁸ Gr̥hapa, White Yajurveda, XXX. 11 ; dvārāpa, Ibid., 13 ; pāyū, puruṣa, Ibid., 20.

¹⁷³⁹ Rāmāyaṇa, Ayodhyākāṇḍa, 80th sarga.

(47) washer-woman,¹⁷⁴⁰ (48) barber (vaptr),¹⁷⁴¹ (49) waiter (parivestr, paricara),¹⁷⁴² (50) messenger (pālāgala)¹⁷⁴³ and (51) bath-attendant (upsektṛ)¹⁷⁴⁴

(e) *Recreational occupations* — Besides these there were others who earned their living by amusing the public specially the richer sections of it. Such were the (52) drumbeater¹⁷⁴⁵ (53) lute-player¹⁷⁴⁶ (54) flute-blower¹⁷⁴⁷ (55) musician¹⁷⁴⁸ (56) public dancer¹⁷⁴⁹ (57) minstrel (mā-gadha)¹⁷⁵⁰ (58) actor (nāṭa)¹⁷⁵¹ (59) artist (śilpī)¹⁷⁵² (60) painter (citraśilpavid)¹⁷⁵³ (61) artificer¹⁷⁵⁴ (62) magician¹⁷⁵⁵ (63) question-solver¹⁷⁵⁶ (64) jester¹⁷⁵⁷ (65) keeper of gambling houses (sabhāvin)¹⁷⁵⁸ (66) pole-dancer or acrobat (vaṃśanartaka)¹⁷⁵⁹ (67) prize-fighter¹⁷⁶⁰ and (68) woman who deals in love-charms.¹⁷⁶¹

(f) *Other non-industrial occupations*—No less important were the occupations of the following non-industrial groups : (69) hunter (govikartana),¹⁷⁶² (70) fisherman,¹⁷⁶³ (71) fish-vendor,¹⁷⁶⁴ (72) merchant,¹⁷⁶⁵

- | | | | |
|------|------------------------------------|------------------------------------|--------------------------------------|
| 1740 | White Yajurveda, XXX. 12. | Rāmāyaṇa, Ayodhyākāṇḍa, 15th | |
| 1741 | Rigveda, X. 142. 4 | sarga ; Uttarakāṇḍa, 107th sarga ; | |
| 1742 | White Yajurveda, XXX. 9 | Kāthopaniṣad, II. 6. 5 and 17. | |
| 1743 | Ibid., 13. | 1754 | White Yajurveda, XXX. 7. |
| 1744 | Ibid., 12. | 1755 | Atharvaveda, XIX. 27. 5 ; compare |
| 1745 | Ibid., 19. | | a'bidhyātūr vistrītir iva in |
| 1746 | Ibid., 19, 20. | | Maitrāyaṇa Brāhmaṇa Upaniṣad, |
| 1747 | Ibid. | | VII. 1 ; VII. 8. |
| 1748 | Ibid., XXX. 20 ; Rāmāyaṇa, Uttara- | 1756 | White Yajurveda, XXX. 10. |
| | kāṇḍa, 107th sarga. | 1757 | Ibid., 20. |
| 1749 | White Yajurveda, XXX. 6 ; Maitrā- | 1758 | Ibid., 18. |
| | yaṇa Brāhmaṇa Upaniṣad, VII. | 1759 | Ibid., 21. |
| | 8 ; Rāmāyaṇa, Bālakāṇḍa, 13th | 1760 | Maitrāyaṇa Brāhmaṇa Upaniṣad, |
| | sarga ; Uttarakāṇḍa, 107th sarga. | | VII. 8. |
| 1750 | White Yajurveda, XXX. 5, 22. | 1761 | White Yajurveda, XXX. 9. |
| 1751 | Rāmāyaṇa, Bālakāṇḍa, 13th sarga ; | 1762 | Ibid., XVI. 28 ; XXX. 7. |
| | Ayodhyākāṇḍa, 83rd sarga. Com- | 1763 | Ibid., XVI. 27 ; XXX. 8, 16 ; Chhān- |
| | pare : changing dress in a moment | | dogya Upaniṣad, I. 4. 3. |
| | like an actor in Maitrāyaṇa Brāh- | 1764 | White Yajurveda, XXX. 16 . |
| | maṇa Upaniṣad, IV. 2 ; VII. 8. | 1765 | White Yajurveda, XVI. 19 ; XXX. |
| | White Yajurveda, XXX. 6 ; Rāmā- | | 17 ; Rāmāyaṇa, Ayodhyākāṇḍa, |
| | yaṇa, Bālakāṇḍa, 13th sarga. | | 83rd sarga. |

(73) banker (śreṣṭhin),¹⁷⁶⁶ (74) usurer (kusidin),¹⁷⁶⁷ (75) wood-ranger,¹⁷⁶⁸ (76) wood bringer,¹⁷⁶⁹ (77) forest fire-guard,¹⁷⁷⁰ (78) boatman (nāvāja), (79) mason,¹⁷⁷¹ (80) sudhālepakāra,¹⁷⁷² (81) bedhakāra,¹⁷⁷³ (82) vastra-sivanakāra,¹⁷⁷⁴ and (83) śāstrajīvi.¹⁷⁷⁵

Labour—(a) *Free labourers : change in their social status*—With the elevation of the princely and priestly classes, the agricultural and industrial population lost the social status they once enjoyed. We have seen that in early Vedic times the rathakāras as the builders of his war-chariots were on terms of friendly intimacy with the king. They were, moreover, regarded as the representatives of the Ribhus, those ancient artificers whose wondrous skill obtained for them a place among the gods.¹⁷⁷⁶ In the Taittirīya Brāhmaṇa, however, they appear as a special class along with the vaiśyas and have through their devotion to a mechanical art, lost status as compared with ordinary freemen. Similarly, though the physician's skill was highly lauded in the Rīgveda the germs of the later dislike for his profession are to be found in the Black Yajurveda.¹⁷⁷⁷ The position of the vaiśyas, the mass of the industrial population also underwent a change, for, in the Aitareya Brāhmaṇa they came to be regarded as being tributary to another (anyasya valikṛt) and their function was to be devoured by the priest and the nobleman.¹⁷⁷⁸ The industrial population, however, tried to improve their position towards the end of this period by organising themselves into guilds.

(b) *Slave labour*—In this period agricultural work was mostly done, as before, by the freemen of the tribe along with their sons and kinsmen. Gradually, however, there arose various labouring classes recruited from the landless poor or conquered enemies. We have already seen that the

¹⁷⁶⁶ Aitareya Brāhmaṇa, III. 30. 3 ;
Kauṣītaki Brāhmaṇa, XXVIII. 6 ;
Taittirīya Brāhmaṇa, III. 1. 4. 10 ;
Kauṣītaki Upaniṣad, IV. 20.

¹⁷⁶⁷ Compare Atharvaveda, VI. 46. 3—
Rīgveda, VIII. 47. 17.

¹⁷⁶⁸ White Yajurveda, XXX. 19.

¹⁷⁶⁹ Ibid., 12.

¹⁷⁷⁰ Ibid., 19.

¹⁷⁷¹ Rāmāyaṇa, Ayodhyākāṇḍa, 80th
sarga.

¹⁷⁷² Ibid., 83rd sarga.

¹⁷⁷³ Ibid.

¹⁷⁷⁴ Ibid.

¹⁷⁷⁵ Ibid.

¹⁷⁷⁶ Rīgveda, I. 20,

¹⁷⁷⁷ Black Yajurveda, VI. 4. 9. 1-2.

¹⁷⁷⁸ Aitareya Brāhmaṇa, VII 29. 3.

Rigveda refers to dāsa's who could be gifted away,¹⁷⁷⁹ so that they must have been in some sort of bondage. In another hymn of the Rigveda¹⁷⁸⁰ we are told that King Trasadasya, son of Purukutsa gave its composer fifty vadhū's. As these young women were gifted away they must have been in some sort of bondage. In the Atharvaveda we read of dāsī's husking and pounding the rice¹⁷⁸¹ or collecting the alkaline droppings of the cow.¹⁷⁸² The word dāsa which usually denotes a slave does not, however, always mean a slave ; for all non-sacrificers were called dāsa's.¹⁷⁸³ It is also worthy of note that though we have mention of gifts of slaves we have none of slave-markets. This absence of slave-markets may be taken to mean that slaves were never largely employed and that the institution of slavery never attained that importance which it did in Greece or Rome or in the social system of the Semetic countries.

(c) *Female Labour*—In this period we find a large number of women earning their livelihood by husking and grinding corn¹⁷⁸⁴, working as dāsī's,¹⁷⁸⁵ weaving,¹⁷⁸⁶ splitting cane,¹⁷⁸⁷ working in thorns,¹⁷⁸⁸ doing embroidery work,¹⁷⁸⁹ dealing in love-charms,¹⁷⁹⁰ washing¹⁷⁹¹ and dying clothes¹⁷⁹² and making scabbards¹⁷⁹³ and ointments.¹⁷⁹⁴ An interesting reference to the position of women with regard to agriculture is to be found in the Taittiriya¹⁷⁹⁵ and Śatapatha Brāh-

¹⁷⁷⁹ See *ante*, fn. No. 592.

¹⁷⁸⁰ VIII. 19. 26.

¹⁷⁸¹ Atharvaveda, XII. 3. 13.

¹⁷⁸² Ibid., XII. 4. 9.

Rigveda, V. 34. 6 ; X. 86. 19. The Yadus and Turvaśas were Aryan tribes but as they seceded from the Vedic faith they had been described as Dāsa kings (Rigveda, X. 62. 10) Bṛhadratha and Navavāstava became favourites of Agni by their performance of sacrifices (Rigveda, I. 36. 8) but both were afterwards killed by Indra, probably because of their subsequent heterodoxy and were called dāsas (Rigveda, X. 49. 6).

¹⁷⁸⁴ Atharvaveda, XII. 3. 12.

¹⁷⁸⁵ Ibid., XII. 3. 13 ; XII. 4. 9 ; V. 22. 6. Pañchaviṃśa Brāhmaṇa, I. 8. 9.

Compare Śatapatha Brāhmaṇa, III. 1. 2. 13ff.

¹⁷⁸⁷ White Yajurveda, XXX. 8.

¹⁷⁸⁸ Ibid.

¹⁷⁸⁹ Ibid, 9.

¹⁷⁹⁰ Ibid.

¹⁷⁹¹ Ibid., 12.

¹⁷⁹² Ibid.

¹⁷⁹³ Ibid., 14.

¹⁷⁹⁴ Ibid.

¹⁷⁹⁵ III. 3. 10. In the Pāraskara Grhyasūtra II. 17. 18 we are told that 'women should make accompanying oblations [in the sacrifice to the rustic deity of the furrow (sītā)] because such is the custom.'

manas¹⁷⁹⁶ where we are told that in the harvest-offering ritual “as a rule the wife of the sacrificer was present, with hands joined to her husband.” This participation of women can be explained by the fact that in primitive times the duties of agriculture lay, for the most part, in the hands of women.¹⁷⁹⁷ After tracing the historical development of this portion of the sacrifice¹⁷⁹⁸ Jevons remarks : “It is, therefore, an easy guess that the cultivation of plants was one of women’s contributions to civilisation and it is in harmony with this conjecture that the cereal duties are usually both in the Old World as in the New, female.” Agriculture, however, when its benefits became thoroughly understood, was not allowed among civilised races to continue to be the exclusive prerogative of women and the Corn goddess, maiden or mother, had to admit within the circle of her worshippers, the men as well as the women of the tribe.

Caste system in relation to mobility of labour—In this period, the caste-system was getting stereotyped. Besides the priesthood and the nobility there comes into existence a new factor, the introduction of divisions among the ordinary freemen—the Vaiśyas. In this development, there must have been two main influences—the force of occupation and the influence of the aborigines. We have already seen how in the Taittirīya Brāhmaṇa the chariotmakers, the type of skilled workers in the Rigveda, have through their devotion to a mechanical art, lost status as compared with ordinary freemen. Similarly, in the Rigveda the healing art is highly lauded and the Aświns, the divine physicians are repeatedly invoked ; but by the time of the Black Yajurveda, the physician lost his previous high position, for, we read “The gods said of these two (the Aświns): impure are they, wandering among men and physicians. Therefore a brāhmaṇa should not

¹⁷⁹⁶ II. 5. 2. 20.

¹⁷⁹⁷ Jevons—Introduction to the History of Religion, pp. 240—41.

¹⁷⁹⁸ The gradual transition from the early sacrifice of human beings to the stage in which horses tended by man during the pastoral stage

were sacrificed, thence to the substitution of various animals as they became domesticated ending with the offering of fruits of the earth, when agriculture became widely known, is set forth as a recognised fact in the Aitareya Brāhmaṇa.

practice medicine, for the physician is impure, unfit for the sacrifice".¹⁷⁹⁹ Moreover, contact with the aborigines¹⁸⁰⁰ must have raised questions of purity of blood very much like those which at present agitate the southern states of the U. S. A. or the White people in South Africa.

In deciding the question how far the caste system stood as a barrier against the mobility of labour and the people were tied down to the rigidity of a social system in which hereditary occupation was allotted to its members it is necessary that we should divest our mind of prejudices and guard ourselves against associating modern ideas with the old state of things. We are accustomed to say that the brāhmaṇas alone could be priests, they alone could teach the Vedas, whereas we have evidences which tend to prove that at least in the earliest times they alone were brāhmaṇas who possessed a knowledge of the Vedas and could perform the function of a priest. Rules were indeed laid down that no body should serve as a priest who could not prove his descent from three (according to Kauṣītaki Sūtra) or ten (according to Latyāyana Sūtra) generations of ṛṣi's. But these very rules prove indirectly that the unbroken descent in a brāhmaṇa line was yet an ideal and not an actuality.

We have, however, not to depend upon negative proof alone to establish our thesis. Authentic ancient texts repeatedly declare that it is knowledge and not descent, that makes a brāhmaṇa. In the Black Yajurveda we read "Eṣa, vai brāhmaṇa ṛṣirārṣeṇo yaḥ śusravan." (VI. 6.1.4) "He who has learning is the brāhmaṇa ṛṣi." Again, we have in the Kāṭhaka (XXX. I) and Maitrāyaṇi (XLVIII. 1; CVII. 9) Saṃhitās : "Kim brāhmaṇasya pitaram kiṃ tu pṛechhasi mātaram." The Pañchaviṃśa Brāhmaṇa¹⁸⁰¹ speaks of certain persons as royal seers and the later tradition preserved in the Anukramaṇi or Index to the composers of the Rigveda ascribes hymns to such royal seers. The hymns No. 30-34 of the tenth maṇḍala of the Rigveda were composed by Kavasha, son of Illuṣha, a low caste woman. In fact, the Aitareya Brāhmaṇa¹⁸⁰² refers to his acceptance

¹⁷⁹⁹ Black Yajurveda, VI. 4. 9. 1—2.

¹⁸⁰¹ XII. 12. 6.

¹⁸⁰⁰ Compare the case of Kavasha.

¹⁸⁰² II. 3. 19.

as a ṛṣi for purity, learning and wisdom. The Śatapatha Brāhmaṇa¹⁸⁰³ refers to royal seers like Viśwāmitra, Devapi and Janaka. Viśwāmitra, the Purohita of King Sudas is described in the Pañchavimśa and Aitareya Brāhmaṇas as of royal descent, of the family of the Jahnus. Yāska¹⁸⁰⁴ represents a prince named Devapi sacrificing for his brother Śantanu, the king. Similarly, king Viśwantara sacrifices without the help of priests in the Aitareya Brāhmaṇa. The Upaniṣads tell us of kings like Janaka of Videha,¹⁸⁰⁵ Aśwapati, king of the Kekayas in the Punjab,¹⁸⁰⁶ Ajātaśatru of Kāśī,¹⁸⁰⁷ and Pravahana Jābāla of Pāñchāla¹⁸⁰⁸ disputing with and instructing brahmins in the lore of the Brahmā. The Chhāndogya Upaniṣad¹⁸⁰⁹ tells us how a brahmin imparts knowledge to a śūdra accepting presents and taking his daughter for his wife. The Jaiminiya Upaniṣad speaks of a king becoming a seer. Another case of interest is that of Satyakāma Jāvāla who was accepted as a pupil by a distinguished priest, because he showed promise, although he could not tell of his ancestry.¹⁸¹⁰ Jāvāla, it may be noted, became the founder of a school of the Yajurveda. In the Rāmāyaṇa¹⁸¹¹ a brahmin is seen earning his livelihood by ploughing with no stigma attached to his action. Moreover, who was Vālmiki, the author of the Rāmāyaṇa itself, but a śūdra ?

Craft-guilds—The question now presents itself whether there existed in this period industrial combinations called craft-guilds. Geldner and Roth find references to them in the Brāhmaṇas but there are other Vedic scholars who hold the opposite view. No doubt, considered by themselves merely as literary passages, these references seem to be doubtful indications of a formal and well-defined institution ; but if we combine with the literary evidence, the evidence of history, the evidence furnished by the evolution of Aryan life, much of the uncertainty of the purely literary evidences will disappear. No doubt guild-life belongs to a consider-

¹⁸⁰³ XI. 6. 2. 1.

¹⁸⁰⁴ II. 10.

¹⁸⁰⁵ Śatapatha Brāhmaṇa, XI. 6. 2. 1.

¹⁸⁰⁶ Ibid., X. 6. 11 ; Chhāndogya Upaniṣad, V. 11.

¹⁸⁰⁷ Bṛhadāraṇyakopaniṣad, II. 1 ; Kauṣītaki Upaniṣad, IV. 1.

¹⁸⁰⁸ Chhāndogya Upaniṣad, I. 8ff. ; V. 3. 1ff ; Bṛhadāraṇyakopaniṣad, VI. 2. 1ff.

¹⁸⁰⁹ IV. 2.

¹⁸¹⁰ Chhāndogya Upaniṣad, V. 4.

¹⁸¹¹ Ayodhyākāṇḍa, 32nd sarga.

ably advanced stage of economic progress in which individual mechanics, artisans and traders have sufficient business instinct developed in them and have achieved sufficient success in their respective businesses to appreciate the necessity of organising themselves into a community for the purpose of promoting their individual and collective interest. But we have already seen the enormous extent to which the differentiation of of economic occupations was carried on and the remarkable progress which the arts and crafts achieved in this period. And this will lead any sober and unbiassed historian to the conclusion that those scholars who choose to find in certain passages of the Brāhmaṇas proofs of the existence of guilds cannot very well be considered as guilty of making any extravagant claim and taking up an untenable position.

Let us now proceed to the passages themselves. In the White Yajurveda¹⁸¹² we have the word *gaṇa* besides *gaṇapati*, which means the headman of a *gaṇa*. *Gaṇa* in later Sanskrit always means a guild or corporate union. In the Bṛhadāraṇyaka Upaniṣad¹⁸¹³ we read “*Sa naib vybhavata. Sa viśamasrjata yānyetāni devajātāni gaṇaśaḥ ākhyāyante.*” Commentator Śāṅkarācārya says : — “*Kṣhātrasrjtopi sa naiva vyābhavat karmaṇe brahma tayā vyābhavat vittopārjjanyiturabhāvāt. Sa viśamasrjata kārmasādhana-vittopārjjanāya. Kaḥ punarasou biṭ ? Yānyetāni devajātāni, svārthe niṣṭhīya etc devajātibhedā ityarthah gaṇaśa gaṇam gaṇam ākhyāyante kathyante gaṇaprāyā hi viśaḥ. Prāyena saṃhatya hi vittopārjjanasamarthāḥ naikaikaśaḥ*” Thus the gods of the Vaiśya class were called *gaṇaśaḥ* on the analogy of their human prototype because they could earn money evidently by industry and trade, not by their individual efforts but in a corporate body. We have also certain passages which contain the word *śreṣṭhin*,¹⁸¹⁴ meaning according to Hopkins a modern seth (banker) or more probably, according to Macdonell, the headman of a guild.¹⁸¹⁵ Metaphorical and indirect allusions to *gaṇa* and *śreṣṭhi* made in order to explain obtruse philosophical subjects show that they were already well-known existences within the

¹⁸¹² XXIII 19. 1.

¹⁸¹³ I. 4. 12.

¹⁸¹⁴ Kauṣītaki Brāhmaṇa, XXVIII. 6 ;
Aitareya Brāhmaṇa. III. 39, 3 ;
Kauṣītaki Upaniṣad, IV. 20.

¹⁸¹⁵ According to the Taittiriya Brāhmaṇa
(III. 1. 4. 10) *Bhaga* was the Śreṣṭh
of the gods.

range of common observation and the allusions are warranted on the logical principle of arguing from the known to the unknown, of explaining the unfamiliar and the abstract from the familiar and the concrete. This is further corroborated by the *Rāmāyaṇa*¹⁸¹⁶ where we are told that in the procession of citizens who accompanied Bharata in his quest of Rāma figured merchants, jewellers, potters carpenters, goldsmiths, physicians, wine-distillers, tailors etc., so that the *Rāmāyaṇa* recognises the position held by trades and crafts in society.

Domestic and Foreign trade—The striking development of industrial life and the consequent sub-division of occupations made self-supporting life an impossibility and gave greater scope to the interchange of the products of agriculture and industry. Unfortunately from the evidences at our disposal we can gather very meagre information about the interchange of commodities of various localities. The *Atharvaveda* describes the guggula (belillum) as “produced from Sindhu” or coming from the sea ;¹⁸¹⁷ *Varaṇa*, a plant used in medicine and supposed to possess magical powers is described as *Varaṇāvatyām*,¹⁸¹⁸ growing on the banks of *Varaṇāvati* lake or river and bartered for coverings (*pavasta*), skins of goats (*ajina*) and woven cloths (*dūrśa*).¹⁸¹⁹ Horses are described in the *Śatapatha Brāhmaṇa* and the *Bṛhadāraṇyaka Upaniṣad*¹⁸²⁰ as “coming from the Indus regions” (*Saindhava*). Salt is similarly described as “coming from the Indus” in the *Bṛhadāraṇyaka Upaniṣad*.¹⁸²¹ From the *Rāmāyaṇa* we learn that *Kamboja*, *Bahlhika* and *Sind* were famous for horses¹⁸²² and that elephants of the Himalayan and Vindhyan regions were famous for their large size and great strength.¹⁸²³ The excess production as well as excellence of production of particular localities induced energetic men to carry them to other places where these could be disposed of with profit. Such men were called the *Vaniḥ*¹⁸²⁴ or merchant, who in a hymn of the *Atharvaveda*

¹⁸¹⁶ *Ayodhyākāṇḍa*, 33rd sarga.

¹⁸¹⁷ *Atharvaveda*, XIX. 38. 2.

¹⁸¹⁸ *Ibid.*, IV. 7. 6.

¹⁸¹⁹ XI. 5. 5. 12.

¹⁸²⁰ VI. 1. 13.

II. 4. 12. Compare *Chhândogya Upaniṣad*, VI. 13. 1-2.

¹⁸²² *Bālakāṇḍa*, 6th sarga.

Ibid.

¹⁸²⁴ *White Yajurveda*, XXX. 17 ;
Taittirīya Brāhmaṇa, III. 4. 14. 1.

is made to speak of "the distant pathway which his feet have trodden" and to address the gods in the following strain :—

"I stir and animate the merchant Indra ; may he
 approach and be our guide and leader
 Chasing ill-will, wild beast, and highway robber,
 may he who hath the power give me riches.

Propitious unto us be sale and bater, may
 interchange of merchandise enrich me ;
 Accept ye twain (Agni and Indra) accordant, this
 libation ! Prosperous be our ventures and incomings.
 The wealth wherewith I carry on my traffic, seeking,
 ye gods ! wealth with the wealth I offer,
 May this grow more for me, not less : O Agni,
 through sacrifice chase these who hinder profit."

For the conduct of this trade there were roads and travellers' rest-houses. The Atharvaveda refers not only to the parirathyā¹⁸²⁶ or road suitable for chariots but also to well-made cart-roads on a higher level than adjoining fields, forests and other village tracks with great trees planted beside, passing through villages or towns and with occasional pairs of pillars (i. e., gateways, evidently near the approaches of some town) through which bridal processions pass.¹⁸²⁷ Every tirtha along the bridal route is said to be well-provided with drink, so that it must have been a rest-house like the prapatha's of the Rigveda.¹⁸²⁸ Indeed travelling seems to have been quite common in those days. The Atharvaveda has charms to ensure a prosperous journey¹⁸²⁹ and gives us the parting traveller's address to the houses of his village.¹⁸³⁰ Villages are sometimes described as connected with mahāpathas or high roads¹⁸³¹ and

¹⁸²⁵ III. 15.

¹⁸²⁶ Atharvaveda, VIII. 8. 22.

¹⁸²⁷ Ibid., XIV. 1. 63 ; XIV. 2. 6, 8, 8, 9,
 12.

¹⁸²⁸ I. 166. 9.

¹⁸²⁹ Atharvaveda, VII. 55.

¹⁸³⁰ Ibid., VII. 60.

¹⁸³¹ Aitareya Brāhmaṇa, IV. 17. 8 ;
 Chhândogya, Upaniṣad, VIII. 6. 2.

causeways (badvan) firmer than an ordinary road are known.¹⁸³² Setu meaning a raised bank for crossing inundated land frequently occurs in the literature of this period.¹⁸³³

Scholars are, however, divided in their opinion as whether this trade was carried on across the seas to foreign lands. Professor Keith observes "There is still no hint of sea-borne commerce or of more than river navigation, though we need not suppose that the sea was unknown, at least by hearsay, to the end of the period."¹⁸³⁴ But, as a matter of fact, we find distinct references to sea and to sea-voyages and at least indirect proof of sea-borne commerce in this period. That the sea was widely known will be evident from the use of the sea by way of simile in the following :—

"Whatever I eat I swallow up, even as the
sea that swallows all."¹⁸³⁵

"Raise thyself up like heaven on high and
be exhaustless as the sea."¹⁸³⁶

That the sea is not the Indus in flood will be evident from the existence of three seas¹⁸³⁷ and from the fact that in a passage of the Atharvaveda Varuṇa's throat evidently means the sea into which the seven rivers flow :

"Thou, Varuṇa, to whom belong the Seven Streams,
art a glorious god.

The waters flow into thy throat as 'twere
a pipe with ample mouth"¹⁸³⁸

That the evaporation of sea-water went to form the clouds is clearly stated in the following verse : "Udirayata marutaḥ samudra stveṣo arko navaḥ utpātayātha." "Up from the sea lift your dread might, ye Maruts as

¹⁸³² Pañchaviṃśa Brāhmaṇa, I. 1. 4.

¹⁸³³ Black Yajurveda, III. 2. 2. 1 ; VI. 1. 4. 9 ; VI. 5. 3. 3 ; VII. 5. 8. 5 ; Kāṭhaka Saṃhitā, XXVII. 4 ; Aitareya Brāhmaṇa, III. 35 ; Śatapatha Brāhmaṇa, XIII. 2. 10. 1 ; Taittiriya Brāhmaṇa, II. 4. 2. 6 ;

Chhândogya Upaniṣad, VIII. 4. 1. 2 ;

Bṛhadāraṇyaka Upaniṣad, IV. 4. 4.

¹⁸³⁴ Cambridge History of India, p. 136.

¹⁸³⁵ Ibid., VI. 135. 3. Compare VI. 135. 2.

¹⁸³⁶ Ibid., VI. 142. 2.

¹⁸³⁷ Atharvaveda, XIX. 27. 4.

¹⁸³⁸ Ibid., XX. 92. 9.

light and splendeur, send the vapour upward !”¹⁸³⁹ The White Yajurveda also refers to the sea : “Samudraṃ gachchha svāhā, antarikṣaṃ gachchha svāhā, daivaṃ savitaraṃ gachchha svāhā.”¹⁸⁴⁰ “Go to the sea. Ail hail ! Go to the air. All hail ! Go to god Savitar. All hail !” In the Śatapatha Brāhmaṇa we are told how Manu, the Indian Noah had directed to build a strong ship for carrying him safe from the floods which were prophesied by the Fish of the Fish-legend and how when the requisite ship was built, Manu was taken safe to the mountain.¹⁸⁴¹ A string of words connected with navigation equally lends support to the view that extensive navigation existed in this period. Thus we have (1) aritram—This means an oar and we find ships propelled by one hundred oars : “Sunāvamāruheyamasravantimanāgasam. Śatāritrāṇi svastaye”.¹⁸⁴² “May I ascend the goodly ship, free from defect, that leaketh not, moved by a hundred oars, for weal” ; (2) aritr—rower of a ship : “eyatirvācamariteva nāvam” ;¹⁸⁴³ (3) nāvaprabhramśanam—the sliding down of the ship ;¹⁸⁴⁴ (4) nau-maṇḍa—rudder of a ship. The Śatapatha Brāhmaṇa refers to big ships having two rudders each ;¹⁸⁴⁵ (5) nāvāja—pilot, boatman.¹⁸⁴⁶

There are also passages which indicate that sea-voyages were undertaken in this period. Thus in the Rāmāyaṇa, Sugrīva asks his followers to go the cities and mountains in the islands of the sea in search of Sitā.¹⁸⁴⁷ In another passage they are asked to go to the land of the koṣakūras¹⁸⁴⁸ (the land where grows the worm which yields the thread of silken cloth), generally

¹⁸³⁹ Ibid., IV. 15. 5.

¹⁸⁴⁰ White Yajurveda, VI. 21.

¹⁸⁴¹ Śatapatha Brāhmaṇa, I. 8. 1. 1—10.

¹⁸⁴² White Yajurveda. XXVII. 7.

¹⁸⁴³ Rigveda, II. 42. 1.

¹⁸⁴⁴ Atharvaveda, XIX. 39. 8. This seems to be connected with manoravasarpnam in the Śatapatha Brāhmaṇa, I. 8. 1. 6.

¹⁸⁴⁵ II. 3. 3. 15.

¹⁸⁴⁶ Ibid., II. 3. 3. 5.

¹⁸⁴⁷ Samudramavagādhāṃścha parvatān pattanāni cha — Kiṣkindhyākāṇḍa, 40th sarga.

¹⁸⁴⁸ Bhūmiścha koṣakārāṇāṃ in Kiṣkindhyākāṇḍa, 40th sarga.

identified with China. In a third passage they are asked to go to Yavadvīpa¹⁸⁴⁹ and Suvarṇadvīpa : ¹⁸⁵⁰ “Yatnavanto Yavadvīpaṃ saptarājyo-paśobhitam. Suvarṇarupyakadvīpaṃ suvarṇakarmaṇḍitam.”¹⁸⁵¹ In a fourth passage they are asked to go as far west as the Red sea : “Tato raktajalam bhīmaṃ Lohitaṃ nāma sāgaram”.¹⁸⁵² Lastly, we have a passage which hints at preparations for a naval fight thus indicating a through knowledge and a universal use of the waterway : “Nāvān śatānāṃ pañcānāṃ Kaivar-tānāṃ śataṃ satam. Sannaddhānāṃ tathā yūnāṃ tiṣṭhanttvitya bhyachodayat.”¹⁸⁵³ “Let hundred of Kaivarta young men lie in wait in five hundred ships (to obstruct the enemy passages)”.

The chief article of trade with China hinted in the Rāmāyaṇa¹⁸⁵⁴ was silk. Mr. J. Yeats in his *Growth and Vicissitudes of Commerce* observes “The manufacture of silk among the Chinese claims a high antiquity, native authorities tracing it as a national industry for a period of 5000 years.” This intercourse with China is corroborated by Professor La Couperie in his *Western Origin of Chinese Civilisation* which refers to the maritime intercourse of India with China as dating from about 680 B. C. when the sea-traders of the Indian Ocean founded a colony called Lang-ga (after the Indian name Laṅkā or Ceylon) about the present Gulf of Kiao-tchoa.

According to Professor Keith “sea-borne commerce with Babylon cannot be proved for this epoch.”¹⁸⁵⁵ The Bāveru Jātaka, however, relates the adventures of certain Indian merchants who took peacocks *by sea* to Babylon. No doubt the Jātaka goes back only to 400 B. C. but the folk-tale on which it is based must be much earlier. Moreover, we

¹⁸⁴⁹ Ptolemy has evidently adopted the name Jāvā for the Sanskrit yavadvīpa, the former being a Greek equivalent of the latter ; while modern writers like Humboldt, call it the Barley Island.

¹⁸⁵⁰ Albiruni has observed that the Hindus call the Islands of the Malaya Archipelago by the general name of Suvarṇa Island. M. Rei-

nand interprets Yavadvīpa and Suvarṇadvīpa to mean the Islands of Java and Sumatra (vide *Journal Asiatique*, IV., p. 265).

¹⁸⁵¹ Kiṣkindhyākāṇḍa, 40th sarga,

¹⁸⁵² Ibid.

¹⁸⁵³ Ayodhyākāṇḍa, 84th sarga.

¹⁸⁵⁴ Kiṣkindhyākāṇḍa, 40th sarga.

¹⁸⁵⁵ Cambridge History of India, p. 144.

have already seen that Mr. H. Rassam found a beam of Indian cedar in the palace of Nabuchadnezzar III. (580 B. C.) at Birs Nimrud; and of Indian teak in the temple of the moon-god at Ur refounded by Nebonidus. According to Mr. Hewitt this wood must have been sent *by sea* from some *sea-port* on the Malabar coast, for, it is only there that teak grew near enough to the sea, to be exported with profit in those early days.¹⁸⁵⁶ Further, Baudhāyana's condemnation of the Northern Aryans who took part in the sea-trade proves that they were not the chief agents though they had a considerable share in it. In the words of Mr. Kennedy "Maritime commerce between India and Babylon flourished in the 7th and 6th but more specially in the 6th century B. C. It was chiefly in the hands of the Dravidians, although Aryans had a share in it. And as Indian traders settled afterwards in Arabia and on the coast of Africa and as we find them settling at this very time on the coast of China, we cannot doubt that they had their settlements in Babylon also."¹⁸⁵⁷

Indeed there are circumstantial evidences which go to prove that there existed some sort of intercourse between India on the one hand and Babylon, Assyria, Judæa and Persia on the other. Mr. Keith observes "It is indeed probable enough that even before the time of Darius, Cyrus of Persia had relations with tribes on the right bank of the Indus and Arrian¹⁸⁵⁸ asserts that the Assakenoi and the Astakenoi were subject to Assyrian kings."¹⁸⁵⁹ Dr. Winckler has pointed out that Shalmanesar IV. of Assyria (727—722 B. C.) received presents from Bactria and India, specially Bactrian camels and Indian elephants. In the *Historians' History of the World* we are told "The pictures on the black obelisk of Shalmanesar shows us such beasts as apes and elephants being brought as tributes to the conquerors or confirming in the most unequivocal way the belief based on Ktesias and Strabo that the Assyrians had commercial relations with India.....The first article which we may confidently assert the Babylonians to have obtained at least in part from these countries were precious stones,

¹⁸⁵⁶ Journal of the Royal Asiatic Society, 1888., p. 337.

¹⁸⁵⁷ Kennedy—Early commerce between India and Babylon in J. R. A. S. 1898.

¹⁸⁵⁸ Indica I. 3. (McCrindle's Trans. p. 179).

¹⁸⁵⁹ Cambridge History of India.

the use of which in seal-rings was very general among them. Ktesias says expressly that these came from India and that onyxes, sardines and the other stones used for seals were obtained in the mountains bordering [on the sandy desert.....The passage of Ktesias to which we have just referred contains some indications which relatively to onyxes appear to refer to the Ghat mountains, since he speaks of a hot country, not far from the sea. The circumstance of large quantities of onyxes coming out of these mountains at the present day, viz., the mountains near Cambay and Broach (the ancient Barygaza) must render this opinion so much the more probable as it was this very part of the Indian coast with which the ancients were most acquainted.....Also the Babylonians imported Indian dogs. The native country of these animals according to Ktesias was that whence the precious stones were obtained. And this account of the regions has been confirmed by Marco Polo who mentions that the large dogs of these regions were even able to overcome lions. A third and a no less certain class of productions which the Persians and the Babylonians obtained from this part of the world were dyes and amongst them the Cochineal or rather Indian *lākṣā*. The most ancient though not quite accurate description of this insect is also found in Ktesias.”¹⁸⁶⁰

Weights and Measures—The development of trade facilitated the growth of weights and measures. The *tūlā* or balance is mentioned in the White Yajurveda¹⁸⁶¹ and in the Śatapatha Brāhmaṇa. Wooden vessels of definite size¹⁸⁶² called *ūrdara* were used in measuring grains. Standards of weight were also invented. Thus the *kṛṣṇalā* (berry of *abrus precatorius*) and *māsa* and some other grains were used as standards of weight in measuring precious metals.¹⁸⁶²

Methods and Media of Exchange—In this period there was not only simple barter, proved by the evidence of words like *prapaṇa* (barter) and *pratipaṇa* (exchange of merchandise)¹⁸⁶³ but the use of gold as well as silver money. We have already seen that the *niṣka* of the Rigveda was

¹⁸⁶⁰ Historians' History of the World,
Vol. I., pp. 484—90.

¹⁸⁶¹ XXX. 17.

¹⁸⁶² Macdonell & Keith—Vedic Index,
Vol. I., p. 185.

¹⁸⁶³ Atharvaveda, III. 15. 4; IV. 7. 6.

not a mere metallic standard but a coin. The use of these niṣkas was also known in this period. The word occurs in many passages of the Atharva-veda¹⁸⁶⁴ and the Aitareya Brāhmaṇa¹⁸⁶⁵ describes a man as niṣkakaṇṭha, wearing a necklace of niṣka coins. The Pañchaviṃśa Brāhmaṇa¹⁸⁶⁶ refers to silver niṣka worn by a Vrātya chief.

A different kind of currency called śatamāna was known in this period. Reference to it occurs not only in the Taittiriya¹⁸⁶⁷ and Kāthaka Saṃhitās¹⁸⁶⁸ but also in the Taittiriya¹⁸⁶⁹ and Śatapatha Brāhmaṇas ; so that it seems to have been widely used as a metallic standard at least in those regions where the Taittiriya Saṃhitā and the Śatapatha Brāhmaṇa were composed. It is interesting to note that the passage in the Taittiriya Brāhmaṇa I. 7. 6. 2 occurs also in the Taittiriya Saṃhitā¹⁸⁷⁰ thus proving that śatamāna was prevalent not only when the Brāhmaṇas were written but also in the early period when the Saṃhitā was composed. In Kāṇḍa V of the Śatapatha Brāhmaṇa¹⁸⁷¹ dealing with the Rājasūya, we have a section which treats of the Ratha-vimochaniya oblations ; and in connection therewith, we are told that behind the right hind-wheel of the cart-stand, the king fastens two round śatamānas which he has afterwards to give to the brahmin priest as his fee for this ceremony. In another passage of the Śatapatha Brāhmaṇa¹⁸⁷² we read : "Three śatamānas are the sacrificial fee for this (offering) which he presents to the brahmin ; for, the brahmin neither performs (like the adhvaryu) nor chants (like the udgātṛ) nor recites (like the hotṛ) and yet he is an object of worship : therefore he presents to the brahmin three śatamānas. Many other passages of the Śatapatha Brāhmaṇa¹⁸⁷³ contain this reference to the śatamāna which was given as fee to the officiating priest in the sacrifice. No doubt Śāyana takes śatamāna to denote a round plate but the case is not unlike that of Nāgojibhatta who commenting on a celebrated passage in the Mahābhāṣya has explained the Mauryas as idol-manufacturers. But just as no scholar

¹⁸⁶⁴ V. 14. 3 ; V. 17. 14 ; XX. 131. 8.

¹⁸⁶⁵ VIII. 22.

¹⁸⁶⁶ XVII. 1. 14.

¹⁸⁶⁷ II. 3. 11. 5 ; III. 2. 6. 3.

¹⁸⁶⁸ XI. 8.

¹⁸⁶⁹ I. 2. 7. 7 ; I. 7. 6. 2.

¹⁸⁷⁰ II. 3. 11. 5 ; III. 2. 6. 3.

¹⁸⁷¹ V. 4. 3. 24, 25.

¹⁸⁷² V. 5. 5. 16.

¹⁸⁷³ XII. 7. 2. 3 ; XIII. 2. 3. 2.

would now explain the Mauryas as idol-manufacturers but take them to denote Maurya princes only, so no one can explain the term Śatamāna in the way in which Sāyana has done. Śatamāna may, however, have been 100 mānas or gunja-berries in weight as explained by Sāyana and accepted by Professor Eggeling and as it is spoken of as *vr̥tta*¹⁸⁷⁴ it must have been round in shape.

Another class of metallic standard has been mentioned in the Śatapatha Brāhmaṇa side by side with the śatamāna. Thus we read : “Suvarṇaṃ hiranyaṃ bhavati rūpaśya eva ābharuddhai śatamānam bhavati śatāyurbhai puruṣa.”¹⁸⁷⁵ “Hiranyaṃ dakṣhinā, suvarṇaṃ śatamānam tasya oktam.”¹⁸⁷⁶ In both the above passages suvarṇa is associated with śatamāna and both are called *hirṇya* or gold ; so that suvarṇa like śatamāna denotes a metallic standard, evidently of gold.

Another class of metallic standard called *pāda* is mentioned in the concluding kāṇḍa of the Śatapatha Brāhmaṇa where we are told that king Janaka of Videha celebrated a sacrifice in which he bestowed huge largesses upon brahmins of the Kuru-Pāñchāla country. A curiosity sprang up in his mind as to who was the best read of these brahmins. He collected a thousand kine and we are told that to every single horn of each cow were tied ten *pādas* and it was proclaimed that they should be taken away by him alone who is best cognisant with Brahman. Now what were these *pādas* ? It has been suggested by Bohtlingh and Roth and accepted by Professor Rhys Davids¹⁸⁷⁷ that the word *pāda* here denotes the fourth part of a certain gold weight and not a metallic standard. Are we then to suppose that as the cows were one thousand in number, as each cow had two horns and as each horn carried ten *pādas*, king Janaka ordered twenty thousand pieces of gold to be hammered out, each again weighing just one-fourth of a certain weight—all this just on the spur of the moment, when the idea of testing the erudition of brahmins occurred to him ? This idea, we are afraid, is too ridiculous for any scholar to entertain seriously in his mind. On the other hand, *pāda* is known to be the name

¹⁸⁷⁶ Śatapatha Brāhmaṇa, V. 4. 3. 24.

¹⁸⁷⁵ Ibid., XII. 7. 2. 3.

¹⁸⁷⁶ Ibid., XIII. 2. 3. 2.

¹⁸⁷⁷ Ancient Coins and Measures of
Ceylon, p. 3 n. 2.

of a metallic standard and has been referred to in Pāṇini's Sūtras¹⁸⁷⁸ and also in an inscription of the tenth century A. D.¹⁸⁷⁹ Only if pāda is taken to stand for a metallic standard, it is easy to understand that Janaka could at any moment get hold of twenty thousand such pādas from his treasury for being tied to the horns of the cows.¹⁸⁸⁰

There is still another class of metallic standard referred to in the Taittiriya Brāhmaṇa¹⁸⁸¹ called kṛṣṇāla where we are told of a gift of kṛṣṇāla to each racer. Kṛṣṇāla denotes the well-known raktikā or gunjaberry and what kṛṣṇāla here means is a metallic standard possibly of gold weighing one gunjaberry. This receives confirmation from the fact that the Kāṭhaka Saṃhitā¹⁸⁸² makes mention of hiraṇya kṛṣṇāla or gold kṛṣṇāla. In fact kṛṣṇāla continued to serve as a metallic standard as late as the age of the Manusāṃhitā.¹⁸⁸³

The general economic condition of the masses and classes—By the time the Brāhmaṇas were composed the whole fertile plain of Northern India was appropriated and colonised by the Aryans. Agriculture became the principal occupation though cattle-rearing was not altogether neglected. Thrice a day the cows were driven out to graze¹⁸⁸⁴ and they were milched thrice¹⁸⁸⁵ as milk was required thrice daily for pouring libations into the sacred Household Fire. Villages were established in the midst of the conquered country—the conquered being pushed back to the hills or allowed to live on conditions of submission, service or tribute. These villages “were scattered over the country some close together, some far apart and were connected by roads.”¹⁸⁸⁶

(1) *The dwelling of the ordinary householder*—Each village contained a number of families, each possessing its own separate dwelling. In the comparatively¹⁸⁸⁷ drier and hotter Upper Gangetic regions the entrance and

¹⁸⁷⁸ V. 1. 34.

¹⁸⁷⁹ Epigraphia Indica, I. 173. 23 and 178. 11.

¹⁸⁸⁰ The same story also occurs in the Bṛhadāraṇyakopaniṣad, III. 1. 1ff.

¹⁸⁸¹ I. 3. 6. 7.

¹⁸⁸² XI. 4.

¹⁸⁸³ VIII. 215, 330 ; IX. 84 ; XI. 137.

¹⁸⁸⁴ Taittiriya Brāhmaṇa, I. 4. 9. 2.

¹⁸⁸⁵ Black Yajurveda, VII. 5. 3. 1.

¹⁸⁸⁶ Macdonell and Keith—Vedic Index, Vol. I, p. 211.

¹⁸⁸⁷ Compare the sense of enclosure in ‘vraja’ and ‘vr̥jana.’

enclosure aspects of the dwelling house must naturally have been more prominent and the references to these features and their figurative use accordingly, occur in texts like the Rigveda which were mainly of Midlandic origin. With the march of Aryan arms into the rain-flooded Lower Gangetic valley the roof naturally had to be built carefully and we therefore find much care bestowed on the construction of the thatched roof in the house-construction outlined in the Atharvaveda¹⁸⁸⁸ which is pre-eminently a book of the Angirāsas, who are definitely located in and associated with the very same Lower Gangetic provinces in Paurāṇic tradition. In every house guests were welcomed and attended to in the āvasatha¹⁸⁸⁹ which seems to be a structure of some sort for the reception of guests on the occasion of feasts and sacrifices and afterwards came to be used in its literal sense of an abode for the first time in the Aitareya Upaniṣad.¹⁸⁹⁰ Every Vedic householder's house was supposed to have its own presiding Deity and his favour was constantly sought. The householder's warm attachment his sweet home will be evident from the parting traveller's address to the houses of his village :

"These houses we invoke, whereon the distant exile sets his thought
Wherein dwells many a friendly heart : Let them be aware of our approach.

* * * * *

Full of refreshment, full of charms, of laughter and felicity
Be ever free from hunger, free from thirst ! Ye houses fear us not
Try here and come not after me, prosper in every form and shape
With happy fortune will I come Grow more abundant still through me."¹⁸⁹¹

(2) *Domestic furniture and utensils*—The ordinary Vedic householder possessed wooden furniture like the pīṭha, tālpa and proṣṭha while the comparatively well-to-do people used the more comfortable bāhya, āsandī and the paryāṅka as well.¹⁸⁹² Among the domestic utensils we find earthen

¹⁸⁸⁸ III. 12 ; IX. 3.

¹⁸⁸⁹ Atharvaveda, IX. 6. 5. (entertaining
brahmins ; Taittirīya Brāhmaṇa)
I. 1. 10. 6 ; III. 7. 4. 6 ; Satapatha

Brāhmaṇa, XII. 4. 4. 6 ; Chhāndogya,
Upaniṣad, IV. 1. 1.

¹⁸⁹⁰ III 12.

¹⁸⁹¹ Atharvaveda, VII. 60. 3, 6 and 7

¹⁸⁹² See ante, pages 137—38.

cooking pots (ukhā)¹⁸⁹³, earthen pots like sthāli,¹⁸⁹⁴ kumbhi¹⁸⁹⁵ and karambhi,¹⁸⁹⁶ liquor-pots¹⁸⁹⁷ and āsecana [vessel to hold liquids such as meat-juice (yuṣān)]¹⁸⁹⁸; skin bags for holding milk and other liquids,¹⁸⁹⁹ winnowing basket (sūrpa),¹⁹⁰⁰ wooden Soma tubs called droṇa-kalasa,¹⁹⁰¹ wooden cups,¹⁹⁰² wooden mortar and pestle for pounding rice¹⁹⁰³ and for extracting soma juice,¹⁹⁰⁴ fire-shovel or poker made of palāśa wood¹⁹⁰⁵, wooden stirring prong,¹⁹⁰⁶ fork,¹⁹⁰⁷ and ladles of various kinds—the Sruva, Sruc, Dhruva, Juhu and Upabhṛt—already described.¹⁹⁰⁸ The Rāmāyaṇa also refers to the use of boxes (peṭakas)¹⁹⁰⁹ and iron trunks (louha-mañjuṣā).¹⁹¹⁰

(3) *The food of the people*—The food consisted of various preparations of barley, wheat and rice and other food grains and cereals; flesh of of animals like goat, sheep, deer, buffalo and ox, fruit, honey and various preparations of milk.

Barley, wheat and rice were often powdered or boiled and made into various kinds of bread or cakes along with milk and other ingredients. Of such the piṣṭa, purodāśa, apūpa and pakti were important. Rice was often boiled in milk to form kṣīraudana which was highly valued as food. Brāhmaudana was offered in the sacrifices.¹⁹¹¹ Other kinds of mess called

¹⁸⁹³ Atharvaveda, IX. 6. 17; White Yajurveda, XI. 59; Black Yajurveda, IV. 1. 5. 4.

¹⁸⁹⁴ Rāmāyaṇa, Ayodhyākāṇḍa, 91st sarga.

¹⁸⁹⁵ Ibid.

¹⁸⁹⁶ Ibid.

¹⁸⁹⁷ Ibid., 114th sarga.

¹⁸⁹⁸ Rigveda, I, 162. 13.

¹⁸⁹⁹ Pañchaviṃśa Brāhmaṇa, XIV. 11. 26; XVI. 13. 13. Cf. Black Yajurveda, I. 8. 19.

Atharvaveda, IX. 6. 16.

¹⁹⁰¹ White Yajurveda, VII. 19; VIII. 12; XIX. 27; Black Yajurveda, III. 1. 6. 1.

¹⁹⁰² White Yajurveda, VIII. 33; XIX. 27; XIX. 33; Bṛhadāraṇyaka Upaniṣad, VI. 3. 1; VI. 3. 13.

¹⁹⁰³ Atharvaveda, XII. 15.

¹⁹⁰⁴ White Yajurveda, I. 14-15; XIII. 33.

¹⁹⁰⁵ White Yajurveda, I. 17.

¹⁹⁰⁶ Atharvaveda, IX. 6. 17.

¹⁹⁰⁷ Ibid.

¹⁹⁰⁸ See ante, p. 136.

¹⁹⁰⁹ Rāmāyaṇa, Ayodhyākāṇḍa, 36th and 37th sargas.

¹⁹¹⁰ Ibid., Bālakāṇḍa, 67th sarga.

Atharvaveda, IV. 35. 7; XI. 1. 1; Black Yajurveda, III. 4. 8. 7.

dadhyaudana, ghr̥taudana, māṃsaudana, mudgaudana, tilaudana and Udaudana were also known and used as food. Of fried grains we find mention of saktu, praivāpa and lāja.

The people seem to have been fond of meat eating. In the Aitareya Brāhmaṇa¹⁹¹² there is a passage which distinctly says that when the king or a respected person comes as a guest one should kill a bull or an old barren cow (vehat) for his entertainment. In the Śatapatha Brāhmaṇa¹⁹¹³ the slaying of a great ox (mahokṣa) or a great goat (mahāja) for the entertainment of a distinguished guest has been enjoined. The great sage Yājñavalkya also expresses a similar view.¹⁹¹⁴ He was "wont to eat the meat of milch cows and bullocks (dehnavanaduha) if only it was firm or tender (amśala)."¹⁹¹⁵ We have already seen¹⁹¹⁶ that the flesh of the sacrificed bull and the buffaloes was taken besides the flesh of the goat¹⁹¹⁷ and the sheep.¹⁹¹⁸ The flesh of hunted animals like kṛṣṇasāra¹⁹¹⁹ and varāha¹⁹²⁰ and of birds was also taken. The Rāmāyaṇa¹⁹²¹ besides referring to the use of dried meat as food, also gives us a graphic account of the dainty dishes prepared in Rāvaṇa's kitchen containing boar's flesh prepared with curds and salt, śālyapakva flesh of the deer, flesh of buffalo, cock, peacock, hare, and various kinds of kṛkala.¹⁹²² Meat boiled with rice (māṃsaudana) was also highly prized in those days.

Though we hear very little of fish-eating in the Rigveda, fish was in regular use as food in this period. This is evident not only from the frequent mention of fishermen but also from the large number of words denoting them that came into use e. g., Dāsa, Dhivara, Dhaivara, Kaivarta, Kevarta, Maināla, etc. That fish was caught and offered for sale as food is apparent from the existence of a separate class of men—the fish-vender mentioned in the White Yajurveda.¹⁹²³ The Maitrāyaṇa Brāhmaṇa Upaniṣad¹⁹²⁴ employs the simile of a fisherman drawing out the denizens of the

¹⁹¹² I. 15.

¹⁹¹³ III. 4. I. 2.

¹⁹¹⁴ Vāj. I. 109.

¹⁹¹⁵ Śatapatha Brāhmaṇa, III. 1. 2, 2 .

¹⁹¹⁶ See ante, pp. 110-13.

¹⁹¹⁷ Rāmāyaṇa, Ayodhyākāṇḍa 91st sarga.

¹⁹¹⁸ Ibid.

¹⁹¹⁹ Ibid., 56th sarga.

¹⁹²⁰ Ibid., 91st sarga.

¹⁹²¹ Ibid., 84th sarga.

¹⁹²² Ibid., Sundarakāṇḍa, 11th sarga.

¹⁹²³ XXX. 16.

¹⁹²⁴ VI. 26.

waters with a net and offering them up (as a sacrifice) into the fire of his stomach to explain higher philosophical truths. The Rāmāyaṇa¹⁹²⁵ refers to dishes of cooked fish in Rāvaṇa's kitchen. Fish was also offered to the guests and the manes.

We have already seen that the milk of the cow, the buffalo and the goat was used.¹⁹²⁶ The Śatapatha Brāhmaṇa¹⁹²⁷ describes the various articles of food prepared from cow's milk—butter (navanita), creamy butter (phāṇṭa) clarified butter (ghṛta) and curd (dadhi). Mixed milk (payasyā) is also mentioned. The drink consisted of milk and wines of different kinds already described. The Rāmāyaṇa¹⁹²⁸ also refers to another drink called āsava. It was prepared from honey, sugar, flowers and fruits flavoured with various powdered ingredients.¹⁹²⁹

(4) *Domestic economy*—We have already seen that in the Rigvedic age many of the household duties were entrusted to the women of the house. The gr̥hapatni was an 'alter ego' of the husband and the Atharvaveda¹⁹³⁰ tells us how she joined her husband in ceremonials and sacrifices and how she had often to take care of the Household Fire. In the marriage hymns she has been described as the queen of the household.¹⁹³¹ Cooking was left to the wife as is proved by many passages of the Atharvaveda¹⁹³² and the Black Yajurveda¹⁹³³ and the cooked food was distributed by the mother (mātā) as philological evidence shows. That the wife had to partake of the husband's burdens and household duties, seems to be indicated by some passages in the marriage hymn of the Atharvaveda. "Blest be the gold to thee, blest the water, blest the yoke's opening and blest the pillar."¹⁹³⁴ Here the yoke's opening stand sym-

¹⁹²⁵ Sundarakāṇḍa, 11th sarga.

¹⁹²⁶ See ante, pp. 110—13.

¹⁹²⁷ III. 3. 3.

¹⁹²⁸ Bālakāṇḍa 53rd sarga; Sundarakāṇḍa 11th sarga.

¹⁹²⁹ Sundarakāṇḍa, 11th sarga.

¹⁹³⁰ XII. 3.

¹⁹³¹ Atharvaveda, XIV. 43—44 :

"As vigorous Sindhu won himself
imperial lordship of the streams

So be imperial queen when thou
hast come in thy husband's home.

Over thy husband's father and
his brothers be imperial queen.

Over thy husband's sister and his
mother bear supreme control."

¹⁹³² XII. 3. 4.

¹⁹³³ V. 1. 7. 1—2.

¹⁹³⁴ Atharvaveda, XIV. 1. 40.

bolical of agricultural operations, while the pillar in the middle of the threshing floor evidently refers to the wife's participation in the work of treading out corn. The tending of the cattle in her husband's house also formed part of her duties as would appear from a passage of the marriage hymn of the Atharvaveda in which Br̥haspati is asked to make her gentle to the cattle.¹⁹³⁵ It seems to have been the custom in those days for the bride to weave the garment which the husband is to wear on the first day of his wedded life—das Brauthemde—the bride-shirt of the peasant of Saxony mentioned by Weber : "(May) the garment woven by the bride be soft and pleasant to our touch."¹⁹³⁶ The girls of the house continued to be the milk-maids of the family in this period as well :

"Quickly and willingly like kine forth come the singers and their hymns :

Their little maidens are at home, at home they wait upon the cows."¹⁹³⁷

To women of the house was entrusted the work of fetching water,¹⁹³⁸ preparing the Soma drink, churning curds and milk and preparing butter, creamy butter (phāṇṭa) and clarified butter (ghṛta) out of them. It is no wonder, therefore, that among the blessings which the king hopes the Horse-sacrifice will bring to him is the birth of industrious women in his kingdom..¹⁹³⁹

It is thus evident that the average Vedic householder lived a life of self-sufficiency, depending mainly on his own exertions. He tended his own cattle and his own fields with the help of his kinsmen and the products of his farm and dairy supplied almost all the needs of his family. There was at first very little of luxury as well as of scarcity.

(5) *Development of capitalism and of a landed aristocracy*—But this state of affairs did not last long. Conquest brought in wealth and with the growth of towns luxury invaded society. Gambling and want of thrift reduced families to want and poverty and much of this wealth passed into other hands. The existence of little restrictions on transfers, whether of cattle or of real property together with the almost unfettered power

¹⁹³⁵ Ibid., 1. 62.

¹⁹³⁶ Ibid., 2. 51.

¹⁹³⁷ Ibid., XX. 127. 5.

¹⁹³⁸ White Yajurveda, XVI. 7.

¹⁹³⁹ Ibid., XXII. 22.

of the pater familias in the matter of disposal of property helped the growth of capitalism. Usury came to be the occupation of the rich, some of the merchants made huge profits and money came to be accumulated into the hands of the few. We have already seen¹⁹⁴⁰ that the Rigveda refers to the Maghavans who were famous for their wealth and liberality. An idea of the wealth of the princes of this period may be gathered from the account of gifts bestowed by them on brahmins, even though the accounts be a bit exaggerated and the figures conventional, as they come mostly from the recipients of these gifts. Thus besides ordinary gifts Janaka bestowed one thousand cows with twenty thousand pādas of gold to the best read brahmin.¹⁹⁴¹ Again, we hear of the liberality of a worshipper who gave eighty-five thousand white horses, ten thousand elephants and eighty thousand slave girls adorned with ornaments to the brahmin who performed the sacrifice.¹⁹⁴² We also find the gift of a village by Janaśruti to Raikka, when the latter agreed to teach him the Deity he worships.¹⁹⁴³ Kaurama, king of the Ruṣamas gave away twenty camels with females by their side, one hundred chains of gold, three hundred mettled steeds and ten thousand cows.¹⁹⁴⁴ We also notice, besides the Maghavans and the princes, the growth of a landed aristocracy¹⁹⁴⁵ due either to the acquisition of superior rights by men of merit over equals in the village or to the custom of granting villages to sacrificial priests and śrotriyas.

(6) *Princely palaces*—These princes and richer people lived in comparatively comfortable dwellings called harmya in the Rigveda.¹⁹⁴⁶ The harmya primarily denoting a unity including the stables etc,¹⁹⁴⁷ very soon added on the qualification of being protected by a wall of some sort.¹⁹⁴⁸ In the Rigveda we find a harmyeṣṭhaḥ prince standing probably

¹⁹⁴⁰ See ante, p. 78.

¹⁹⁴¹ Śatapatha Brāhmaṇa, XIV. This story is repeated in the Bṛhadāraṇyaka Upaniṣad, III. 1. 1 ff.

¹⁹⁴² Weber—Indische Studien, X. p. 54. See also Śatapatha Brāhmaṇa, II. 6. 3. 9; IV. 1. 11; IV. 3. 4. 6; Taittirīya Brāhmaṇa, III. 2. 5. 11—12.

¹⁹⁴³ Chhândogya Upaniṣad, III. 2. 4.

¹⁹⁴⁴ Atharvaveda, XX. 127. 2—3.

¹⁹⁴⁵ See ante, pp. 88—89.

¹⁹⁴⁶ I. 121. 1; I. 166. 4; IX. 71. 4; IX. 78. 3; X. 43. 3; X. 73. 10.

¹⁹⁴⁷ Rigveda, VII. 56. 16; cf. X. 106. 5.

¹⁹⁴⁸ Ibid., VII. 55. 6.

on the roof or rather the balcony of his palace¹⁹⁴⁹ just as any later Indian king would do to please his people. When the Atharvaveda thinks of a residence for Yama, it is a *harmya*.¹⁹⁵⁰ Some details regarding this *harmya* are to be found in the literature of this period dealing with *Rājasūya*.¹⁹⁵¹ During this sacrifice the 'ratna-havis' rite was to be performed at the house of the king's *ratnins* including the Chief Queen and the Household officers so that *Ratnins*' houses must have been round about or adjacent to the king's *harmya*, being in the same royal and sacrificial area; and the separate houses of the sacrificing king's *maṇiṣi*, *vāvatā* and *parivṛkti* indicate the existence of a complex palace of the harem type. The royal officer called *kṣattri*¹⁹⁵² does the work of the distributor of the king's gifts in the Rigveda and the Atharvaveda, that of the gate-keeper in the Yajurvedas and early Brāhmaṇas and that of the harem superintendent (*antaḥ-purādhyakṣa*) in the Satapatha Brāhmaṇa. The princes and nobles also employed *dāsi*'s for doing all sorts of domestic drudgery like husking and winnowing grain¹⁹⁵³ and collecting the alkaline droppings of the cow.¹⁹⁵⁴ They usually maintained a large number of attendants,¹⁹⁵⁵ cooks,¹⁹⁵⁶ servants,¹⁹⁵⁷ messengers,¹⁹⁵⁸ waiters,¹⁹⁵⁹ door-keepers¹⁹⁶⁰ and bath-attendants.¹⁹⁶¹

The description of Kaikeyi's Mahala with its separate *krodhāgāra*, *citragrha* (picture-gallery) *latāgrha* (grove) and many rooms furnished with altars and seats made of gold, silver and ivory; ¹⁹⁶² of Yuvarāja Rama's Mahala with its white gate decked with gems and pearls and crowned with a golden image, with images of tigers made of different metals here and there,

¹⁹⁴⁹ Ibid., VII. 56. 16. (Geldner—*Velische Studien*, 2, 278, n. 2; *Alt. Leb.* 149).

¹⁹⁵⁰ Atharvaveda, XVIII. 4. 55.

¹⁹⁵¹ Black Yajurveda, I. 8. 9. 1 ff; *Maitrāyaṇi Saṃhitā*, II. 6. 5; IV. 38; *Kāṭhaka Saṃhitā*, XV. 4; *Taittiriya Brāhmaṇa*, I. 7. 31 ff; *Satapatha Brāhmaṇa*, V. 3. 1. 1. ff.

¹⁹⁵² Macdonell and Keith—*Vedic Index*, Vol. I, p. 201.

¹⁹⁵³ Atharvaveda, XII. 3. 13.

¹⁹⁵⁴ Ibid., XII. 4. 9.

¹⁹⁵⁵ Atharvaveda, IX. 6. 50-51.

¹⁹⁵⁶ *Rāmāyaṇa*, *Ayodhyā-kāṇḍa*, 80th *sarga*.

¹⁹⁵⁷ White Yajurveda, XXX. 13.

¹⁹⁵⁸ Ibid.

¹⁹⁵⁹ Ibid., XXX. 9.

¹⁹⁶⁰ Ibid., XXX. 13.

¹⁹⁶¹ Ibid., XXX. 12.

¹⁹⁶² *Rāmāyaṇa*, *Ayodhyākāṇḍa*, 10th *sarga*.

with its rooms adorned with the paintings of skilful artists ;¹⁹⁶³ of Rāvaṇa's palace ornamented with plastered jewelled pavements, studded with gems, crystals and pearls, with elephants of burnished gold and speckless white silver, girt round by a mighty wall, furnished with golden doors with beautiful golden stairs embellished with ornaments of burnished gold, with lofty edifices having excellent windows made of ivory and silver, with golden nets, with its beautiful latāgrha's (groves), citragrha (picture-gallery), kṛdāgrha (play-room), kāmāgrha, divā-vihāra-grha and artificial mountains made of wood¹⁹⁶⁴ show the improvement of art and the luxury of the age. Well might Hanumāna exclaim at the sight of the bed-chamber of Rāvaṇa with its jewelled staircase illumined with heaps of gems, its terraces of crystal and statues of ivory, pearls, diamonds, corals, silver and gold, adorned with jewelled pillars, furnished with carpets, golden lamps,¹⁹⁶⁵ crystal altar, bed-stead with ivory legs decked with gold, artificial ladies with fly-flappers in their hands moving by mechanism¹⁹⁶⁶ that this must be svarga !

(7) *Growth of luxury*—The luxury of the age is equally evident as much from the use of the large number of gold and silver ornaments and jewellery already described as from the use of toilette of various kinds (snāna-dravya) kept in different pots,¹⁹⁶⁷ sandal powder (candanakalka),¹⁹⁶⁸ sandal paste,¹⁹⁶⁹ aguru paste,¹⁹⁷⁰ white paste,¹⁹⁷¹ sticks to brush the teeth with¹⁹⁷² and of hair-comb (kañkatikā).¹⁹⁷³ Maṇaḥśilā, a red-coloured mineral product found in the mountains (giriya-dhātu)¹⁹⁷⁴ was used by ladies to colour their cheek. In the Rāmīyaṇa Sitā asks Hanumāna to remind Rāma of the fact that one day he painted with his own hands the cheek of Sitā with tilakas of maṇaḥśilā.¹⁹⁷⁵ It was usual for the comparatively well-to-do people to burn aguru and sandal wood,¹⁹⁷⁶ resin

¹⁹⁶³ Ibid, 15th sarga.

¹⁹⁶⁴ Ibid., Sundarakāṇḍa, 6th sarga.

¹⁹⁶⁵ Ibid., 9th sarga.

¹⁹⁶⁶ Ibid., 10th sarga.

¹⁹⁶⁷ Ibid., Ayodhyākāṇḍa, 91st sarga.

¹⁹⁶⁸ Ibid.

¹⁹⁶⁹ Ibid., Ayodhyākāṇḍa, 78th and 91st sargas ; Sundarakāṇḍa, 10th sarga.

¹⁹⁷⁰ Ibid, Ayodhyākāṇḍa, 91st sarga.

¹⁹⁷¹ Ibid, Kiṣkindhyākāṇḍa, 26th sarga.

¹⁹⁷² Ibid., Ayodhyākāṇḍa, 91st sarga.

¹⁹⁷³ Ibid.

¹⁹⁷⁴ Ibid., Kiṣkindhyākāṇḍa, 26th sarga; Sundarakāṇḍa, 1st sarga.

¹⁹⁷⁵ Ibid, Sundarakāṇḍa, 40th sarga.

¹⁹⁷⁶ Ibid., Ayodhyākāṇḍa, 14th, 76th and 88th sargas.

(śāla-niryyās)¹⁹⁷⁷ and various other kinds of incense (gandhadravya).¹⁹⁷⁸ Not only do we find mention of the gandhajivī¹⁹⁷⁹ but also of perfumes¹⁹⁸⁰ and ointments¹⁹⁸¹ made by them. In the White Yajurveda the ointment-maker (who is usually a female) is mentioned¹⁹⁸² and we are told that in the Soma sacrifice the Adhvaryu priest anoints the eyes of the sacrificer with collyrium.¹⁹⁸³ Collyrium-pots are mentioned in the Rāmāyaṇa¹⁹⁸⁴ and the anointing instrument in the Black Yajurveda.¹⁹⁸⁵ The anointing instrument was called ṣīka, as opposed to śālali which is used by men according to the Kāthaka Saṃhitā¹⁹⁸⁶ and Maitrāyaṇi Saṃhitā.¹⁹⁸⁷ According to Śatapatha Brāhmaṇa¹⁹⁸⁸ the anointing instrument was a reed stalk (sareṣikā) with a tuft. In the Black Yajurveda¹⁹⁸⁹ the mythological origin of collyrium is thus told : "Indra slew Vṛtra ; his eye-ball fell away ; it became collyrium." We also hear of musk (kasturī),¹⁹⁹⁰ lac (lākṣā),¹⁹⁹¹ of saffron (kumkum)¹⁹⁹² for colouring food¹⁹⁹³ and of flavouring ingredients for food.¹⁹⁹⁴ The use of umbrella,¹⁹⁹⁵ chāmara (fly flapper),¹⁹⁹⁶ wooden sandals¹⁹⁹⁷ and leather-shoes¹⁹⁹⁸ was also known in this age.

- ¹⁹⁷⁷ Ibid., 76th sarga.
¹⁹⁷⁸ Ibid.; Ibid., Sundarakāṇḍa 10th sarga.
¹⁹⁷⁹ Ibid., Ayodhyākāṇḍa, 83rd sarga.
¹⁹⁸⁰ Chhāndogya Upaniṣad, VIII. 2. 6 ; VIII. 8. 5 ; Kauṣītaki Upaniṣad, I. 4.
¹⁹⁸¹ Black Yajurveda, VI. 1. 1. 5—6 ; Kāthaka Saṃhitā, XXIII. 1 ; Kapiṣṭhala Saṃhitā, XXXV. 7 ; Maitrāyaṇi, Saṃhitā, III. 6. 1—3 ; Śatapatha Brāhmaṇa, III. 1. 3. 13.
¹⁹⁸² White Yajurveda, XXX. 14.
¹⁹⁸³ Ibid., IV. 3.
¹⁹⁸⁴ Ayodhyākāṇḍa, 91st Sarga.
¹⁹⁸⁵ VI. 1. 1. 6.
¹⁹⁸⁶ XXIII. 1.
¹⁹⁸⁷ III. 6. 1—3,
¹⁹⁸⁸ III. 1. 3. 13.
¹⁹⁸⁹ VI. 1. 1. 5.
¹⁹⁹⁰ Rāmāyaṇa, Laṅkākāṇḍa, 75th Sarga.
¹⁹⁹¹ Atharvaveda, V. 5. 7 ; Bṛhadāraṇyaka Upaniṣad, II. 3. 6 ; Rāmāyaṇa, Ayodhyākāṇḍa, 75th sarga ; Kiṣkindhyākāṇḍa, 23rd sarga.
¹⁹⁹² Rāmāyaṇa, Kiṣkindhyākāṇḍa 26th sarga.
¹⁹⁹³ Ibid, Sundarakāṇḍa, 11th sarga.
¹⁹⁹⁴ Ibid.
¹⁹⁹⁵ Ibid., Ayodhyākāṇḍa, 14th, 45th and 91st sargas ; Aranya-kāṇḍa, 35th and 51st sargas ; Kiṣkindhyākāṇḍa 10th and 26th sargas ; Sundarakāṇḍa, 10th sarga ; Laṅkākāṇḍa, 11th and 129th sargas.
¹⁹⁹⁶ Ibid., Ayodhyākāṇḍa, 14th, 15th, 16th and 91st sargas ; Aranya-kāṇḍa, 35th and 51st sargas ; Kiṣkindhyākāṇḍa, 10th and 26th sargas ; Laṅkākāṇḍa, 11th and 129th sargas.
¹⁹⁹⁷ Ibid., Ayodhyākāṇḍa, 91st, 112th and 113th sargas ; Kiṣkindhyākāṇḍa, 26th sarga.
¹⁹⁹⁸ See ante, p. 140.

(8) *Existence of social inequalities*—Side by side with richer people enjoying these luxuries we find also peoples in debt. In the Aitareya Brāhmaṇa VIII. 11 we read : “To overcome the foe thou movest like one taking payment for debt ; hail !” Debts were contracted for various purposes, gambling being one of them.¹⁹⁹⁹ The amount of interest payable is impossible to make out. There is a passage in the Atharvaveda²⁰⁰⁰ where an eighth and sixteenth are mentioned as paid ; but, it is quite uncertain whether interest or an instalment of the principal is meant. The Atharvaveda contains prayers to Agni for absolution from sin arising out of non-payment of debt²⁰⁰¹ and for release from debts incurred without intention of payment.²⁰⁰² In another hymn of the Atharvaveda²⁰⁰³ the reciter prays to the two Apsaras (Ugrajit and Ugrampasyā) for forgiveness for incurring debt in dice-play. Such prayers are really significant in as much as they show not only an advanced state of society with frequent occurrence of debt but also a corrupt state of affairs where people contracted debt with the intention of non-payment, though at the same time non-payment of debt was regarded as a sin which brought evil consequences in the next world.

The state in relation to economic life—Before we conclude this chapter something may be said about the part the head of the state was expected to play in moulding the economic life of the people. The Coronation ritual proves beyond doubt that not only was it the duty of the ruler to protect the life and property of his subjects but also to promote their material welfare. Thus the priest during the Coronation ceremony addresses the ruler as follows :

“This is thy Sovereignty. Thou art the ruler, thou art controller, thou art firm and steadfast.

¹⁹⁹⁹ Black Yajurveda, V. 4. 4. 4 ; V. 6. 6. 1 ; Śatapatha Brāhmaṇa, V. 4. 3. 19 ; Kauṣītaki Brāhmaṇa, III. 3 ; Pañchaviṃśa, Brāhmaṇa, XVII. 14. 16 ; Rāmāyaṇa, Ayodhyākāṇḍa, 91st sarga.

²⁰⁰⁰ VI. 47. 32 = Rigveda, VIII. 47. 17.

²⁰⁰¹ Atharvaveda, VI. 117.

²⁰⁰² Ibid., VI. 119.

²⁰⁰³ Ibid., VI. 118. According to Maharṣi Saunaka the Rig mantras beginning

with kakāra and ending with hakāra if uttered thirty thousand times would bring freedom from debt. Rig VIII. 30. 4 if uttered eight or twenty-eight times a day for six months would bring freedom from debt. The mantra (1st Aṣṭaka, 2nd Adhyāya, 13th Varga) beginning with “Kasya nūnam” if uttered with priyangu and honey will bring freedom from debt.

Thee for land culture, thee for peace and quiet, thee for
wealth, thee for increase of our substance.²⁰⁰⁴

In the Rāmāyaṇa we similarly find Rāma asking Bharata whether the people are living happily in his kingdom ; whether the agriculturist and the cowherd find favour in his sight ; whether every day in the morning he watches from the balcony of his palace the prosperity of his subjects passing through the high roads ; whether royal forests and cattle are well-protected ; whether the forts are always filled with wealth, grains, weapons, water-appliances (jala-yantra), artisans and skilled archers ; whether his income is always greater than the expenditure ; whether the physicians and other notables are always kept in good humour by sweet words, gifts and honours.²⁰⁰⁵ It is thus evident that the economic side of national life was to receive its fullest attention from the head of the state. The ideal of happiness which the king prays to the gods for his country to attain will be evident from the following hymn in connection with the Horse-sacrifice :

“O Brahman, let there be born in the kingdom the Brahmin illustrious for religious knowledge ; let there be born the Rājanya, a skilled archer, piercing with shafts, a mighty warrior ; the cow giving abundant milk ; the ox good at carrying ; the swift courser ; the industrious woman. May Parjanya send rain according to our desire ; may our fruit-bearing plants ripen ; may acquisition and preservation of property be secured to us.”²⁰⁰⁶

We have evidence in the panygerics of rulers how the theoretical concept of royal duty was translated into practice. In the eulogy which a subject of Parikṣit bestows, he makes particular mention of the fact that agriculture and cattle-rearing were in a prosperous condition, that the subjects of Parikṣit not only thrived well but also lived in unbroken peace and happiness under his rule.²⁰⁰⁷

²⁰⁰⁴ White Yajurveda, IX. 22.

²⁰⁰⁵ Rāmāyaṇa, Ayodhyākāṇḍa, 100th sarga.

²⁰⁰⁶ White Yajurveda, XXII. 22.

²⁰⁰⁷ Atharvaveda, XX. 127.

CHAPTER VI.

The Age of Gautama Buddha.

(600 B.C.—321 B.C.)

The chief sources of our knowledge of the economic conditions prevailing in this period are the Jātakas or the Birth-stories of Buddha and to a more limited extent the Vinaya and the Suttapiṭakas. It is true that the Jātakas are mere stories ; but it is fairly clear that the folk in those tales have given them a parochial setting and local colour. And this evidence from the Jātakas is frequently borne out by the coincident testimony of other books not dealing with folk-lore. Of such books which furnish corroborative evidence, the Sūtras (specially the Gṛhyasūtras, Śrautasūtras and the Sūtras of Pāṇini) and the works of Greek writers like Herodotus are important. Whatever may be the age of their representative works in their present form, the Sūtras undoubtedly had their roots in a period at least as early as the rise of Jainism and Buddhism. The purpose of the Sūtras, so called from the sūtra which means a thread, is to afford a clue through the mazes of Brahminical learning contained in the Brāhmaṇas and the earliest of them represent a phase which is transitional between the language of the Brāhmaṇas and Classical Sanskrit as fixed by the grammarians.

Towns—This period is marked by a remarkable growth of towns²⁰⁰⁸ and the development of town-life which is so closely associated with the growth of industry and commerce. According to the Mahāparinibbāna Sutta²⁰⁰⁹ there were some “great cities (mahānagara) such as Champā, Rājagṛha, Śrāvastī, Sāketa, Kauśāmyi and Benares” as against “this little walled and

Aristobulus when he was sent on a commission by Alexander to a region left desert by a shifting of the Indus to the east, saw the remains of over a thousand towns

town" of Kuśinagara." We get the following list of towns from the literature of this period :—(1) Ālavī²⁰¹⁰ (= Sanskrit Āṭavī). It was situated near the bank of the Ganges on the way from Śrāvastī to Rājagṛha and thirty-five yojanas away from Śrāvastī ; (2) Andhapura on the bank of Telavāhanada ;²⁰¹¹ (3) Anupiya in Malladeśa ;²⁰¹² (4) Ariṣṭapura in the Śivi country.²⁰¹³ It had four gates ;²⁰¹⁴ (5) Asitāñjana ;²⁰¹⁵ (6) Assapura, a nigama in Anga ;²⁰¹⁶ (7) Ayojjhā (= Sans. Ayodhyā) ;²⁰¹⁷ (8) Aṭṭaka in Anga ;²⁰¹⁸ (9) Vārāṇasī (= Benares).²⁰¹⁹ It was surrounded by a wall,²⁰²⁰ pierced by gates²⁰²¹ with watch-towers over them.²⁰²² It was served by a good system of drains²⁰²³ through one of which a prince fled from the hands of the invaders.¹⁰²⁴ It was famous for her scents²⁰²⁵ and textile fabrics ;²⁰²⁶ (10) Bhadravātikā ;²⁰²⁷ (11) Bhṛgukachchha ;²⁰²⁸ (12) Brahmot-tara ;²⁰²⁹ (13) Champī, ancient capital of Anga.²⁰³⁰ It was surrounded by a wall, pierced by gates with watch-towers over them ;²⁰³¹ (14) Danta-

Uvāsagadasao (Eng. Trans. by A. F. R. Hoernle) p. 52 ; Tri-purastā Jātaka (No. 16) ; Maṇi-kaṇṭha (No. 253).

²⁰¹¹ Serivāṇij Jātaka (No. 3).

²⁰¹² Sukhavihāri Jātaka (No. 10).

²⁰¹³ Śivi Jātaka (No. 499) ;

²⁰¹⁴ Unmādayantī Jātaka (No. 527) ; Śivi Jātaka (No. 499).

²⁰¹⁵ Ghaṭa Jātaka (No. 454).

²⁰¹⁶ Majjhima Nikāya.

²⁰¹⁷ Vimānavatthu Commentary, p. 82.

²⁰¹⁸ Majjhima Nikāya.

²⁰¹⁹ Uvāsagadasao (Eng. Trans. by Hoernle), p. 52 ; Dīgha Nikāya, XIX. 86 ; Vimānavatthu Com-mentary, p. 82 ; Apanṇaka Jātaka (No. 1) ; Vannupatha (No. 2) ; Taṇḍulanālī (No. 5) ; Devadharma (No. 6) ; Tailapātra (No. 96) etc.

Gṛdhra Jātaka (No. 164) ; Saṃgrā-māvacara Jātaka (No. 182).

Khadirāṅgāra Jātaka (No. 40) ;

Mahāśūlavaja (No. 51) ; Chulla-pālma (No. 193) ; Bhīmasena (No. 80) ; also Ncs. 156 and 34).

Saṃgrāmāvacara Jātaka (No. 182)

²⁰²⁰ Śīgāla Jātaka (Nos. 113 and 142).

²⁰²¹ Aśātarṇṇika Jātaka (No. 100).

²⁰²² Bhīmasena Jātaka (No. 80).

Bhīmasena (No. 80) ; Kāma-

vilāpa (No. 297) ; Mahāśvāroha

(No. 302). Madiyaka (No. 390) ;

Viśa (No. 488) ; Mahāvāṇij

(No. 493) ; Soṇananda (No. 532) ;

Mahāhaṃsa (No. 534) ; Khaṇḍa-

lāla (No. 542) ; Mahāunmārga

(No. 546) ; Viśvautara (No. 547) ;

²⁰²⁷ Surāpāna Jātaka (No. 81).

²⁰²⁸ Suśroṇī Jātaka (No. 360) ; Supārāga Jātaka (No. 463).

Divyāvadāna (Maitrakanyakāvadāna)

Uvāsagadasao (Eng. Trans. by

Hoernle), p. 52 ; Dīgha Nikāya,

XIX 86 ;

²⁰³¹ Mahājanaka Jātaka (No. 539).

pura on the coast of Kalinga ;²⁰³² (15) Deśaka in Śumbha kingdom ; (16) Gambhirāpattana, a port ;²⁰³³ (17) Halidda-vaṃsa, a nigama in the Koliya country ;²⁰³⁴ (18) Indapattha ;²⁰³⁵ (19) Jetuttara in the Śivi country.²⁰³⁶ It was surrounded by a wall pierced by gates ;²⁰³⁷ (20) Kāmpilya, the capital of N. Pāñchāla ;²⁰³⁸ (21) Kośāmvī (Kauśāmvī),²⁰³⁹ the capital of Vatsarāja Udayana. According to Cunningham it is modern Kośam on the bank of the Jumna, thirty miles N. W. of Allahabad. It was an important halting place both for goods and passengers coming to Magadha ; (22) Kapilavastu²⁰⁴⁰ on the bank of the river Rohiṇī 100 miles north of Benares, birth-place of Gautama Buddha ; (23) Kitagiri²⁰⁴¹ a nigama in the Kāśī kingdom ; (24) Kusinārā²⁰⁴² (= Kuśanagara). It is modern Kāśī, 35 miles East of Gorakhpur. It was surrounded by a wall ;²⁰⁴³ (25) Kāveripattana in the Drāviḍa country ;²⁰⁴⁴ (26) Kajangala. It was the name of a city according to the commentator of Viśā Jātaka where there was a vihāra at the time of Kāśyapa Buddha ; (27) Kuṇḍiya ;²⁰⁴⁵ Koli on the bank of the river Rohiṇī, just opposite to Kapilavastu. Devadatta and Yaśodhārā belonged to the ruling family of this city ; (29) Madhurā (Mathurā), capital²⁰⁴⁶ of the Surasenas ; (30) Māhissati ;²⁰⁴⁷

Dīgha Nikāya, XIX. 86 ; Kurudharma Jātaka (No. 276) ; Khullakalinga (No. 301) ; Kumbhakāra (No. 408) ; Kalingavodhi (No. 479).

²⁰³³ Lośaka Jātaka (No. 41).

Majjhima Nikāya.

²⁰³⁵ Uvāsagadasao (Eng. Trans. by Hoernle), p. 52 ; Kurudharma (No. 276) ; Mahāsutasoma (No. 537). Viśwantara Jātaka (No. 547).

²⁰³⁷ Ibid.

Uvāsagadasao, Lecture X. Vimānavatthu Commentary, p. 82. Kumbhakāra Jātaka (No. 408).

²⁰³⁹ Uvāsagadasao (Eng. Trans. by Hoernle), p. 52 ; Vimānavatthu Commentary, p. 82. Its drainage system is referred to in Kṛṣṇadvaipāyana Jātaka (No. 444).

Compare the epithet Kauśāmvoya in Śatapatha Brāhmaṇa, XII. 2. 13 and in Gopatha Brāhmaṇa 7. 4. 24. According to the Rāmāyaṇa, (I. 32. 6) and Kāśikā commentary on (Pāṇini's Sūtra, IV. 2, 68) : tena nirvritam, Kauśāmvī was founded by prince Kuśāmvā.

Uvāsagadasao (Eng. Trans. by Hoernle) p. 52.

Majjhima Nikāya.

²⁰⁴² Uvāsagadasao (Eng. Trans. by Hoernle), p. 52 ; Mahāsudarśana Jātaka (No. 95).

²⁰⁴³ Ibid.

²⁰⁴⁴ Akīrti Jātaka (No. 480).

²⁰⁴⁵ Aśātarūpaka Jātaka (No. 100).

²⁰⁴⁶ Vimānavatthu Commentary, p. 82,

²⁰⁴⁷ Dīgha Nikāya, XIX. 86.

(31) Mithilā ;²⁰⁴⁸ (32) Nandana ;²⁰⁴⁹ (33) Polāsapura ;²⁰⁵⁰ (34) Potana ;²⁰⁵¹ (35) Patitṭhāna (= Paithan) ; (36) Pātaliputtaka ;²⁰⁵² (37) Potali in the Kāśi kingdom ;²⁰⁵³ (38) Potali in Aśvaka kingdom.²⁰⁵⁴ Its gates are also referred to ;²⁰⁵⁵ (39) Roruka,²⁰⁵⁶ capital of Sovira. It was an important centre of coasting trade ; (40) Ramanaka ;²⁰⁵⁷ (41) Rājagaha (= Rājagiha =²⁰⁵⁸ Rājagṛha ; (42) Sigala ;²⁰⁵⁹ (43) Śrāvastī,²⁰⁶⁰ capital of Uttara Kōśala. It is modern Śeṭh Mahoṭha in the Gonda district of U. P., ten miles north of Valarāmapura, on the bank of the river Aciravatī (modern Rāptī). Its gates are also referred to ;²⁰⁶¹ (44) Sāṃkāśyā (= Pāli Samkissa).²⁰⁶² It is modern Saṃkiśa on the Kālī river in the Farakkabad district ; (45) Surundhana in the Kāśi kingdom ;²⁰⁶³ (46) Sadāṃmatta ;²⁰⁶⁴ (47) Śākala²⁰⁶⁵ in the land of the Madra's (= modern Sialkot) ; (48) Sāketa²⁰⁶⁶ (otherwise known as Ayodhyā or Viśṭkhī) on the bank of the river Saraju in the Faizabad district ; (49) Sālatura ;²⁰⁶⁷ (50) Śarkarā, a nigama near Rājagṛha ;²⁰⁶⁸ (51) Setavya ;²⁰⁶⁹ (52) Sagula ;²⁰⁷⁰ (53) Sum-

Uvāsagadasao (Eng. Trans. by Hoernle), p. 52 ; Vimānavatthu Commentary, p. 82 ; Dīgha Nikāya, XIX. 86 ; Makhādeva Jātaka (No. 9) ; Gāndhāra (No. 406) ; Kumbhakāra (No. 408) ; Mahājanaka (No. 538).

²⁰⁴⁹ Divyāvadāna (Maitrakanyakāvadāna)

Uvāsagadasao, Lecture X.

²⁰⁵¹ Assakānāṭṭica Potanam—Dīgha Nikāya, XIX. 86.

²⁰⁵² Uvāsagadasao (Eng. Trans. by Hoernle), p. 52.

²⁰⁵³ Aśvaka Jātaka (No. 207).

Khullakalinga Jātaka (No. 301).

²⁰⁵⁵ Ibid.

Dīgha Nikāya, XIX. 86 ; Ādipta Jātaka (No. 424).

²⁰⁵⁷ Divyāvadāna (Maitrakanyakāvadāna).

²⁰⁵⁸ Uvāsagadasao, Lecture X ; Jātaka Nos. 4, 11, 14, 37 etc. It was once the capital of Magadha.

²⁰⁵⁹ Vimānavatthu Commentary, p. 82.

²⁰⁶⁰ Jātaka Nos. 1, 2, 3, 5, 27, 37, 41, 44, 54, 75, 103 etc.

²⁰⁶¹ Avikṣṇa Jātaka (No. 27).

²⁰⁶² Uvāsagadasao (Eng. Trans. by Hoernle), p. 52 ; Jātaka Nos. 29, 134, 135 etc.

²⁰⁶³ Udaya Jātaka (No. 456).

²⁰⁶⁴ Divyāvadāna (Maitrakanyakāvadāna).

²⁰⁶⁵ Kalingavodhi Jātaka (No. 479) ; Kuśa (No. 531).

Buddhist Suttas—Rhys Davids, p. 99 ; Uvāsagadasao (Eng. Trans. by Hoernle), p. 52 ; Vimānavatthu Commentary, p. 82 ; Sāketa Jātaka (Nos. 68 and 237).

²⁰⁶⁷ Pāṇini.

²⁰⁶⁸ Illisa Jātaka (No. 78).

²⁰⁶⁹ Uvāsagadasao, Lecture X.

²⁰⁷⁰ Uvāsagadasao (Eng. Trans. by Hoernle), p. 52.

sumāra²⁰⁷¹; (54) Suppāraka; ²⁰⁷² (55) Svātivatī in Chedi kingdom; ²⁰⁷³ (56) Takkhaśilā (Taxila).²⁰⁷⁴ Its gates are referred to; ²⁰⁷⁵ (57) Ujjain in Avanti; ²⁰⁷⁶ (58) Ukkatṭha; ²⁰⁷⁷ (59) Uttara Mathurā; ²⁰⁷⁸ (60) Vaiśālī²⁰⁷⁹ (= Pāli Vesālī). According to Cunningham it is modern Beśāra, 20 miles north of Hājipur. It was surrounded by three walls each at a distance of one gabyūti (= two miles) pierced by three gates with watch-towers over them.²⁰⁸⁰ With its suburbs of Kulluga and Kundagāma Vaiśālī was called Vanīyagāma according to Jaina tradition.²⁰⁸¹

(a) *Origin of towns* :—Some of these were in their beginnings mere villages and gradually developed into towns. In the Jayaddviṣa Jātaka²⁰⁸² we are told that a certain king made settlement on a certain mountain, brought virgin soil under cultivation by clearing off the jungles and bringing a thousand families with much treasure founded a big village. This village, we are told, grew into a town (Khullakalmāsa by name). The town of Kammasadamma also grew out of a village²⁰⁸³ The growth of villages into towns is further shown by the fact that some terms while generally meaning towns also mean villages e. g., khoṭa, pattana, kārvāṭa etc.²⁰⁸⁴ In fact, one of the most potent factors which influenced the amalgamation of several villages into a city or a capital was the political condition of ancient India. Mr. Havell²⁰⁸⁵ well remarks “A natural consequence of the consolidation of Aryan tribal system into these larger states and kingdoms was the gradual development of the village settlements into larger towns and cities planned on the same prin-

²⁰⁷¹ Ibid.

²⁰⁷² Buddhist India—Rhys Davids, p. 31.

²⁰⁷³ Chedi Jātaka (No. 422).

²⁰⁷⁴ Uvāsagadasao—Hoernle's trans. p. 52; Pāṇini; Jātaka Nos. 61, 71, 96, 408.

²⁰⁷⁵ Palāyi Jātaka (No. 229).

²⁰⁷⁶ Chitrasambhūta Jātaka (No. 498).

²⁰⁷⁷ Uvāsagadasao—Hoernle's trans. p. 52; Rhys Davids—Dialogues of the Buddha.

²⁰⁷⁸ Ghaṭa Jātaka (No. 454).

Uvāsagadasao—Hoernle's trans. p. 52; Vimānavattu Commentary, p. 82; Tittira (No. 37); Ekaparṇa No. 149).

²⁰⁸⁰ Ekaparṇa Jātaka (No. 149).

²⁰⁸¹ Uvāsagadasao—Hoernle, p. 4.

²⁰⁸² No. 513.

²⁰⁸³ Mahāsutasoma Jātaka (No. 537)

²⁰⁸⁴ History of Aryan Rule in India, p. 38.

²⁰⁸⁵ Vaijayanti by Yādavaprakāśa, p. 159, LL. 1-6 p. 232, L. 2; Mayamatam, Ch. IX.

ciples in which wards or village units, were grouped round the royal palace and the citadel."

Some of the towns were fortresses in the midst of a collection of villages and these fortresses grew into towns. According to the *Mahā-parinibbāna Sutta*²⁰⁸⁶ Ajātasatru of Magadha built a fortress at Pāṭali-grāma to check the advance of the Vajjis. This village and the fortress grew up into the town of Pāṭaliputra in the course of two generations.²⁰⁸⁷ The hill-fortress of Girivraja four miles and a half in circumference which was said to have been built by Mahāgovinda, the architect also grew into a town.

The necessity of a trading post led to the growth of many commercial towns in India also as in other countries. A centre of trade is very likely to be posted on or near by the well-known trade-routes of the Ancient World and Taxila is a case in point. "The valley in which the remains of Taxila lie is a singularly pleasant one, well-watered by the Haro river and its tributaries, and protected by a girdle of hills ;—on the north and east by the snow-mountains of Hazra and the Murree ridge, on the south and west by the well-known Margalla spur and other lower eminences. This position on the great trade-routes which used to connect Hindusthan with Central and Western Asia, coupled with the strength of its natural defences, fertility of the soil, and a constant supply of good water readily accounts for the importance of the city in early times."²⁰⁸⁸

(b) *Town-planning* :—Though we have no detailed description of the town-plan in early literature the fragmentary evidences concur in describing an Indian city as surrounded by walls pierced by lofty gates and defended by a moat or even three moats ; and as divided into different wards or quarters which were allotted to men of different castes and trades excepting the Chāṇḍālas who lived outside the city. In the *Pāṇḍara Jātaka*²⁰⁸⁹ we are told that one should

²⁰⁸⁶ I. 26—S. B. E., Vol. XI. p. 18.

²⁰⁸⁷ V. A. Smith—*Early History of India*, 4th edition. p. 39.

²⁰⁸⁸ Sir J. Marshall—*Guide to Taxila*, pp. 1—2

²⁰⁸⁹ No. 518.

keep a secret carefully guarded in his mind just as a city is strongly guarded by being girt round by deep moats. In the Mahājanaka Jātaka²⁰⁹⁰ we are told that expert sthapati's have built the walls, wards and places of the city of Mithilā after proper calculation and measurement, have beautified it with gates (torāṇa), watch-towers (aṭṭalakas) and well laid out (suvinyasta) roads and kūṭāgāra's made according to proper measurements (yathā māna). From the Mahāunmārga Jātaka²⁰⁹¹ we learn that the king dug three moats round Mithilā—a water-moat, a mud-moat and a dry moat. The city of Kuśavati was surrounded by seven ramparts (vapra) with four gates.²⁰⁹² The story of how king Pasenadi of Kośāla was kept out of his capital by the stratagem of Digha Kārāyaṇa²⁰⁹³ and how this made him lose his kingdom also proves the existence of completely walled up cities and of the stringent rules for closing the city-gates.²⁰⁹⁴ From the Uvāsagadāsao we find that the kṣatriya quarter of Vesālī was different from that of the brahmins. From that Jātakas we learn of the ivory-workers' bazaar (danta-vīthi),²⁰⁹⁵ weavers' place (palli)²⁰⁹⁶ and vaiśya quarter (vīthi)²⁰⁹⁷ in Benares, florists' quarter (utpalavīthi)²⁰⁹⁸ and cooks' quarter²⁰⁹⁹ in Śrīvastī. The evil consequence upon the corporate life of the city of segregating people into detached wards where they could be liable to develop different habits and customs was provided against by the composite wards or simple residential blocks, by the establishment of temples in the centre with magnificent debating halls and rest-houses where all sorts of people congregated together irrespective of their caste. Moreover, caste-distinction prevented one thing; it did not make poverty a crime and did not divide the city into two parts like the East End and the West End of London.

(c) *Corporate life in the towns* :—As a matter of fact, we find a sturdy spirit of corporate life in these cities. In the Kaṇḍikapūpa Jātaka²¹⁰⁰ we find that by raising subscriptions (chhandaka), the

²⁰⁹⁰ No. 538.
²⁰⁹¹ No. 546.
²⁰⁹² Mahāsudassana Sutta, I. 3—6
 (—S. B. E., Vol. XI. pp. 449—51.
²⁰⁹³ In Buddhist literature he is known
 as Dīgha Cārāyaṇa.
²⁰⁹⁴ Bhadrāsāla Jātaka (No. 465).

²⁰⁹⁵ Kāśāya Jātaka (No. 221); Śīla-
 vannāga (72).
²⁰⁹⁶ Bhīmasena Jātaka (No. 89).
²⁰⁹⁷ Viśwantara Jātaka (No. 547).
²⁰⁹⁸ Padma Jātaka (No. 261).
²⁰⁹⁹ Māṃsa Jātaka (No. 315).
²¹⁰⁰ No. 109.

citizens of Śrāvastī used to supply food on certain occasions to the monks of the Buddhist saṃgha in the city. Another example of such a corporate gift (gaṇa-dāna) by the citizens of Śrāvastī is given in the Susīma Jātaka²¹⁰¹ where the question as to whether the gift is to be made to the Tirthikas or the Buddhists was decided by majority vote (saṃvāhula). Such corporate gifts were also made by the citizens of Benares²¹⁰² and Rājagṛha.²¹⁰³

Rural Economy—Despite this remarkable growth of towns and the development of town-life the economy of India in this period, as in other periods, was mainly rural, based on a system of village-communities. Like the Jātakas the Dharmasūtras also depict the life of the country as mainly rural. Cities are not ignored but despised. Āpastamba²¹⁰⁴ says "Let him avoid going into towns." Baudhāyana²¹⁰⁵ goes further and says "It is impossible for one to obtain salvation who lives in a town covered with dust." Moreover, the Sūtras do not prescribe any ceremony for urban life though there are many for agricultural life in the villages. The constant injunctions to sacrifice at a place where the four roads meet or near a hill etc., therefore, imply life in the villages rather than life in the towns.²¹⁰⁶

(a) *Origin and classification of villages* : From the evidences at our disposal we are able to distinguish three main types of villages in this period : (1) the ordinary agricultural village or mixed type (2) the special and suburban village or industrial type and (3) the border village or frontier type. The first type consisted of those villages which were occupied by men of all castes and occupations and some of which were destined, in course of time, to grow into towns. The special and suburban type was occupied solely by particular communities, and some of them specialised in a particular branch of industry. We thus read of villages inhabited solely by hunters,²¹⁰⁷ Chandāla villages,²¹⁰⁸

²¹⁰¹ No. 163.

²¹⁰² Durdada Jātaka (No. 180).

²¹⁰³ Kāśyapa Jātaka (No. 221).

²¹⁰⁴ I. 32. 21.

II. 3. 6, 33.

Govila Gṛhyasūtras, III. 5. 32—35.

²¹⁰⁷ Mayura (No. 159) ; Rohantamṛga (No. 501) ; Khullahaṃsa (No. 533).
Chittasambhūta (No. 498) ; Āmra (No. 474) ; Mātanga (No. 497).

Brahmin villages,²¹⁰⁹ a village of 500 robbers,²¹¹⁰ a village of carpenters²¹¹¹ and a village of 100 families of smiths.²¹¹² The rise of these industrial villages in the suburban areas was partly due to the policy of segregation adopted by the higher castes or the king with regard to the people of the lower castes who were thus not allowed to live within the walls of the city. We find a Chāṇḍāla village lying just outside the city of Ujjain.²¹¹³ Chāṇḍāla villages outside the city are also referred to in Āmra²¹¹⁴ and Mātanga²¹¹⁵ Jātakas. A niṣāda village outside Benares is referred to in Rohantamṛga²¹¹⁶ and Śyāma²¹¹⁷ Jātakas. A niṣāda village near Śakula is mentioned in Khullahaṃsa Jātaka.²¹¹⁸ The village containing 500 families of carpenters mentioned in the Alina-chitta Jātaka²¹¹⁹ was situated near Benares. According to the Uvāsagadasao²¹²⁰ there were 500 potter-shops outside the town of Polāsapura. Apparently these formed a suburban village of potters. Indeed the very nature of these industrial villages made it essential that they should be near a town which alone can afford to give their inhabitants a good market for their labour or for the products of their labour. The third or border type of villages are frequently²¹²¹ referred to in the Jātakas. Thus the Śakuna and Kharamvara²¹²² Jātakas refer to border villages in Kośala while the Maśaka²¹²³ and the Mahāśvāroha²¹²⁴ Jātakas refer to border villages in Kāśī. The Mahāvamśa also refers to such frontier villages founded by king Siṃhavāhu of the Vanga country over which he placed a son of the princess's uncle, commander in the army of the Vanga king.²¹²⁵

- ²¹⁰⁹ Suvarṇakakkata Jātaka (No. 389);
Kurudharma (No. 276).
²¹¹⁰ Śaktigulma Jātaka (No. 503).
²¹¹¹ Alina-chitta Jātaka (No. 156);
Phandana (No. 475).
²¹¹² Sūchī Jātaka (No. 387).
²¹¹³ Chittasambhūta (No. 498).
²¹¹⁴ No. 474.
²¹¹⁵ No. 497.
²¹¹⁶ No. 501.
²¹¹⁷ No. 540.
²¹¹⁸ No. 533.

- ²¹¹⁹ No. 156.
²¹²⁰ VII. 181, 184.
²¹²¹ No. 36.
²¹²² No. 79.
²¹²³ No. 44.
²¹²⁴ No. 302.
²¹²⁵ "Nivāsetvāna sākham te pachchanta-gāmaṃ āgamum. Tathāsi rāja-dhī tāya mātulassa suto tadā. Senā-pati Vangarañño thito pachchanta-sādhane nisinno vaṭamule so kam-mantam saṃvidhāpayam—Mahāvamśa, Ch. VI. 15-16.

It seems that villages were sometimes founded for military purposes. In the Mahānunmārga Jātaka²¹²⁶ we find that the king, previous to his starting on a military expedition gave orders to his minister to build villages on the line of march. The minister, after accomplishing his task and completing the arrangements informed the king : "Great king, wait not a moment on the road, but advance immediately. I have already built villages for you at intervals of seven yojanas, establishing halting places, and filled the hundreds of villages that are on the way with cloths and ornaments, food and drink. I have kept elephants, horses and vehicles ready for you in those villages." These villages, were evidently utilised, subsequently to expedition, as resting places for caravans.

(b) *Corporate village-life*—Over each village was the gāma-bhojaka who was paid according to the Kulāyaka Jātaka²¹²⁷ a tax on wine levied on each tub of wine (hence called chāṭi-kahāpaṇa) and fines. According to Professor Rhys Davids²¹²⁸ from the fact that the appointment of this officer is not claimed by the king until the later law-books it is almost certain that in earlier times the appointment was either hereditary or was conferred by the village council itself. The villages of the industrial type appears to have had an Alderman (Jeṭṭaka) as the head. Thus, for instance, the Sūchī Jātaka²¹²⁹ tells us that there was a Jeṭṭaka at the head of the village of 1000 blacksmiths. The headman appears also to have been sometimes appointed by the king as the Kharamvara Jātaka²¹³⁰ shows. Though we hear of the misconduct of some of the headmen as in the Kharamvara²¹³⁰ and Gṛhapati Jātakas²¹³¹ the villagers were not altogether powerless. From the Pāṇiya Jātaka²¹³² we find that the headman who prohibited the slaughter of animals and the sale of wine in the village had ultimately to rescind his orders on account of the protest of the villagers. Even when the headman was a nominee of the king the villagers

²¹²⁶ No. 546.

²¹²⁷ No. 31.

²¹²⁸ Buddhist India, p. 48.

²¹²⁹ No. 387.

²¹³⁰ No. 79.

²¹³¹ No. 199.

²¹³² No. 459.

had a voice in the management of their affairs.²¹³³ In fact they met to confer with the *gāmaḥhojaka* and carried the upshot of their counsels into effect. The *Mahāśvāroha Jātaka*²¹³⁴ tells us that the thirty villagers of a border village met together to transact the business of the place. The *Kulāyaka Jātaka*²¹³⁵ tells us that the members of the thirty-five families of a village met in the middle of the village to transact the affairs of the village.²¹³⁶ We are further told that they went about the village with axes and clubs. With the clubs, they would roll out of the way stones that lay on the four highways and other roads of the village. The trees that would strike against the axle of chariots, they cut down; rough places they smoothed down; cause-ways they built; dug water tanks and built a hall but they wanted to put a pinnacle on it. They found it in the possession of a lady from whom they could not buy for want of money. But the lady gave it to them when they agreed to make her a partner in their work. The *Lośaka*²¹³⁷ and *Takka*²¹³⁸ *Jātakas* give us the story of the establishment of a village-school and the construction of a hut for the teacher at the instance of the villagers. In the *Grāhapati Jātaka*²¹³⁹ we are told that the villagers contracted a loan (of an old ox) from the *gāmaḥhojaka*. In the *Mahāunmārga Jātaka*²¹⁴⁰ a *krḍāsālā*, a *pānthaśālā* and a *vicārasālā* were constructed by raising public subscriptions from the villagers.²¹⁴¹ Such co-operative undertakings by villagers are confirmed by the later evidence of *Kautilya's Arthśāstra*.

²¹³³ Being thus placed between two masters the headman's lot was not an enviable one as is apparent from the *Viśa Jātaka* (No. 488) where among the misfortunes or rather curses that might befall a man is mentioned village headmanship.

²¹³⁴ No. 302 :—"Te pāto va gāmamajjhe sannipatitvā gāmakiccham karonti."

²¹³⁵ No. 31 : "gāmamajjhe thatvā gāmakammaṃ karonti."

²¹³⁶ In case of division of opinion the decision of the majority prevailed [Sunil

(No 163) and *Kāṣāya* (No. 221) *Jātakas*].

²¹³⁷ No. 41.

²¹³⁸ No. 63.

²¹³⁹ No. 199.

²¹⁴⁰ No. 546.

²¹⁴¹ On occasions of royal hunt the villagers were sometimes put to forced labour and therefore the villagers would in a body sometimes beat the forest and collect the game in an enclosed place where the king could hunt [*Nyagrodha-mṛga* (No. 12) and *Nandika-mṛga* (No. 385) *Jātakas*].

The corporate character of villages is equally evident as much from the fact that the village elders administered justice in petty cases as from the fact that fines were sometimes imposed on the village as a corporate whole.²¹⁴²

Land System—The village arrangements remained practically the same as at the end of the previous period. In the centre was the inhabited portion containing the homestead of the villagers. Around this inhabited portion was the arable ground (khetta) the limits of which might be extended by fresh clearing of forest land.²¹⁴³ The majority of the holdings were were probably small, though estates of 1000 *kaṛiṣas*²¹⁴⁴ also occur in the *Jātakas*¹²⁴⁵ and in the *Vinaya*.²¹⁴⁶ According to Baudhāyana an ideal economic holding seems to have been a portion of land measuring six *nivartanas* which should be kept free from taxes on the ground that this much is necessary to support a family. *Nivartana* was used in the sense of *vṛtti* or allowance or livelihood; so an area of land sufficient to support one man from its produce was called *nivartana*. Around the village lay its grazing pastures of herds of cattle. In the earlier periods the pasture does not appear to have been organised in any particular way. In the *Jātakas*, however, we come across an indirect reference to an enclosed pasture. In the *Dhūmkāri Jātaka*,²¹⁴⁷ for instance, we read: 'A Brahmin goatherd took a flock of goats and making a pen in the forest, kept them there.' According to Gautama²¹⁴⁸ unenclosed land was used by all for grazing cattle, obtaining firewood, gathering flowers and getting fruits.

(a) *Was there state-landlordism?*—We have seen that in the previous periods while the king had absolute right of disposal of his own lands, he had, if any at all, at that remote age, very limited rights over the land of his subjects or clansmen. The *Jātakas* also very clearly distinguish private land from royal domain. Thus we were told in the *Śālikedāra Jātaka*:²¹⁴⁹ 'Once upon a time, a king named Magadha reigned

²¹⁴² *Vaśiṣṭha's Dharmasūtra*, III. 4.

²¹⁴³ *Kāma Jātaka* (No. 466).

²¹⁴⁴ *Kaṛiṣa* = 4 *amṇaṇa* = 8 acres.

²¹⁴⁵ *Suvarpakakkata* (No. 389); *Sālikedāra* [No. 484.]

²¹⁴⁶ I. 287; II. 186.

²¹⁴⁷ No. 413.

²¹⁴⁸ XII. 28.

²¹⁴⁹ No. 484.

in Rājagṛha. At that time there stood a Brahmin village named Sālindiya, towards the north-east as you go out of the city. In this north-eastern district was property (cultivable fields) belonging to Magadha (Magadhakhettam) A Brahmin named Kosiyagotta belonging to this village appears to have taken lease of one thousand kariṣas out of that royal domain and sowed paddy in it.²¹⁵⁰ The Jayaddiṣa Jātaka²¹⁵¹ shows us one of the ways in which royal domain increased by way of colonisation. The Kurudharma Jātaka²¹⁵² draws a distinction between the land of the king (rañño santakam) and the land of the ordinary land-holders (kutumbassa santakam). The Dharmasūtras also distinguish royal domain from private land. Thus says Vasiṣṭha²¹⁵³ "A pledge, a boundary and the property of minors, an open deposit, a sealed deposit, women, the property of a king and the wealth of a śrotriya are not lost by being enjoyed by others."

(b) *Private ownership of land*—As to vāstu and the arable land private ownership was fully established. Gautama²¹⁵⁴ recognises this private property in land when he says "Animals, land and females are not lost by possession of another." The Jātakas abound in references to the kutimvaka or kutamvika. They seem to be private landowners.²¹⁵⁵

As regards the mode of acquisition of property the Gautama Dharma-sūtra²¹⁵⁶ lays down that 'a man becomes owner by inheritance, purchase, partition, seizure or finding.' Acceptance is an additional mode of acquisition for a brahmin, conquest for a kṣatriya and gain by labour for a vaiśya or śūdra. It is true that many of these ways of acquiring wealth

²¹⁵⁰ Rājagahe Magadharāja nāma rajjam
kāreti. Tadā nagarato puvvat-
tarāya disāya sālindiyo nāma
brāhmaṇa-gāmo ahosi. Tassa
puvvattara disāya magadha-
khettam. Tattha Kosiyagotta
nāma sālindiyavāsi brāhmaṇo
sahassa kārisamattam khettam
gahetvā sālīm apāpesi—Sālikedāra
Jātaka (No. 484).

²¹⁵¹ No. 513.

²¹⁵² No. 276.

²¹⁵³ XVI. 18 (= S. B. E., Vol. XIV.
p. 81).

²¹⁵⁴ XII. 39 (= S. B. E., Vol. II. p. 243).

²¹⁵⁵ Satapatra Jātaka (No. 279);
Matsyadāna (No. 288); Sujāta
(No. 352) etc. See Childers—
Pāli Dictionary and Rhys Davids—
Pāli Dictionary.

²¹⁵⁶ X. 39—42. Cf. Vasiṣṭha, XVI. 16
S. B. E., Vol. II. 231 and Vol.
XIV. 81.)

relate to moveable property, but it is also clear that immovable property like land may be acquired by inheritance and succession, which involve acquisition by partition and acceptance of dowry ; by purchase, which implies commerce ; by conquest and occupation or valour ; and by acceptance of gifts in return for instructing a pupil. Land thus acquired might, at least in the kingdom of Magadha, be given away and in that of Kośala be sold. In the former case a Brahmin landowner (Kosiyagotta by name) offers 1000 kariṣas of land as a gift to the Buddha who, however, accepted only eight kariṣas ; ²¹⁵⁷ we also hear of the donations of pleasure-gardens to the Buddhist Order by the physician Jivaka at Rājagṛha, by the courtesan Amvaplī in Vaiśālī and above all by the merchant Anāthapiṇḍada at Śrāvastī. ²¹⁵⁸ As regards the sale of land we are told in the Chullavagga ²¹⁵⁹ that the merchant Anāthapiṇḍada entangles an unwilling noble (prince Jeta) in the sale of a park. And in the law books we read that land might be let against a certain share of the produce. ²¹⁶⁰

In proving property, documents, witnesses and possession are admitted as proof of title by Vaśiṣṭha ²¹⁶¹ and if the documents conflict, the statements made by old men, by guilds and corporations are to be relied upon. ²¹⁶² Vaśiṣṭha gives some good provisions on the right of way and evidence in disputes regarding immovable property. ²¹⁶³ Gautama ²¹⁶⁴ and Vaśiṣṭha ²¹⁶⁵ give the law of acquiring property by usage. The following eight things used by another for ten years continuously, are lost to the owner : ancestral property, a purchased article, a pledged property given to a wife by her husband's family, a gift property received for performing a sacrifice, the property of reunited co-partners and wages. A pledge, a boundary, property of minors, an open deposit, a sealed deposit, female slaves, the property of a king and the wealth of a śrotriya are not lost by

²¹⁵⁷ Śālikedāra Jātaka (No. 484).

²¹⁵⁸ For references see N. Dutt's *Early History of the Spread of Buddhism and the Buddhist Schools*, pp. 100, 143—44, 153, 161.

²¹⁵⁹ VI. 4. 9. (— S. B. E., XX. p. 187) ; Kern—*Manual of Indian Buddhism*, p. 28.

²¹⁶⁰ Āpastamva, II. 11, 28 (1) ; I. 6, 18 (20.)

²¹⁶¹ XVI. 19.

²¹⁶² Vaśiṣṭha, XVI. 15.

²¹⁶³ XVI. 10—15.

²¹⁶⁴ XII. 37—39.

²¹⁶⁵ XVII. 16—18.

being enjoyed by others. Animals, land and females are not lost by possession of another. According to Vasiṣṭha²¹⁶⁶ property entirely given up by its owner goes to the king who is enjoined to administer the property of widows and minors.

(c) *Law of Inheritance*--From the very modes of acquisition it follows that the land under private owners could pass from generation to generation under the customary rules of inheritance and succession. The rules of inheritance supplied by the Sūtras make sapīṇdas the heirs after or in default of sons. The sapīṇda here is one within six degrees and is a male only. The widow is excluded and the daughter according to Āpastamva, inherits only in default of sons, teacher or pupil.²¹⁶⁷ The nuptial presents and ornaments of a wife were inherited by the daughters.²¹⁶⁸ Probably the general rule anticipates not the death of the owner but a division of property among the sons during his lifetime. The king inherits in default of the others named and some say that among the sons only the eldest inherits. These rules are sufficiently vague but local laws are also provided for in the additional rules: "In some countries gold or black cattle or black produce of the earth (grain or iron ?) is the share of the eldest."²¹⁶⁹ Then in regard to what the wife receives, the Sūtra leaves it doubtful whether the rule "the share of the wife consists of her ornaments and wealth received from her relations according to some (authorities)" is to be interpreted in such a manner that 'according to some' refers only to the last clause or to the whole. "What is obvious" says Mrs. Rhys Davids²¹⁷⁰ "is that the whole matter of inheritance was not yet regulated by any general state-law. Different districts of India have different laws of inheritance. Baudhāyana treats the subject of inheritance first under the head of impurity where he says that sapīṇdas inherit in default of nearer relations and sakulyas (remoter relations) in default of sapīṇdas ; but afterwards he adds that the eldest son in accordance with the quotations cited by Āpastamva may receive the best chattel or the father may divide equally between the

²¹⁶⁶ XIV. 8—9.

²¹⁶⁷ II. 6. 14. 4.

²¹⁶⁸ Baudhāyana, II. 2. 3. 4 ; Vasiṣṭha, XVII. 46.

²¹⁶⁹ Āpastamva, II. 14. 7.

²¹⁷⁰ in Rapson's Cambridge History of India, Vol. I.

sons. Here also the fact that the same subject is treated in different sections shows that as yet the matter of civil law was not treated systematically but incidentally." Nevertheless we can partially reconstruct the law of inheritance as it prevailed in those days. According to Baudhīyana, of the fourteen kinds of sons, aurasa (legitimate), putrikāputra (son of an appointed daughter), kṣetrajā (bastard) datta (adopted), kṛtrina (made) gūḍhaja (secretly born) and the apavidhā (abandoned by the parents) were entitled to inheritance. The next six, kṛnina (son of an unmarried daughter), punarbhava (son of a remarried female), swayaṇdatta (self-given son) and niṣāda (son of a twice-born father in a śūdra mother) were regarded as members of the family. The last Parīśāra was not even regarded as a member of the family. Gautama names twelve kinds of sons of whom aurasa, the kṣetrajā, datta, kṛtrina, gūḍhaja and apavidhā can inherit while kṛnina, sahoda (son of a pregnant bride), punarbhava, putrikāputra, swayamdatta and kṛta (purchased) cannot inherit though they are maintained as members of the family. Vasiṣṭha regards aurasa, kṣetrajā, putrikāputra, punarbhava, kṛnina and gūḍhaja as heirs while sahoda, datta, kṛta, swayamdatta, apavidhā and niṣāda cannot inherit except when there are no legitimate heirs of the first six classes above mentioned.²¹⁷¹ Āpastamba who flourished a few centuries later recognised the aurasa sons alone as the legitimate heir, for, the recognition of other sons as heirs could not be allowed among sinful men of his age.²¹⁷² Yet the ancient customs did not die out soon.

Gautama, the earliest law-giver of this age seems to have favoured partition of an estate, for, "in partition there is an increase of spiritual merit."²¹⁷³ According to him, the eldest son should get, as an additional share, a twentieth part of the estate, some animals and a carriage, the middlemost son shall get sheep, grain, utensils, a house, a cart and some animals and then the remaining property is equally divided. Or, Gautama would allow the eldest son two shares and the remaining sons one share each. Or, they may take one kind of property by choice according to seniority; or the special shares may be adjusted according to their mothers.²¹⁷⁴ Vasiṣṭha

²¹⁷¹ XVII.

²¹⁷² II. 6. 13; II. 10. 27.

²¹⁷³ XXVIII. 4.

²¹⁷⁴ XXVIII. 5-17.

allows the eldest son to have a double share and a little kine and horses; the middle-most gets utensils and furniture, the youngest takes the goats, sheep and house.²¹⁷⁵ Baudhāyana allows all the children to take equal shares or the eldest son to take one-third in excess.²¹⁷⁶

The property of unreunited brothers, dying without issue goes to the eldest brother; the property of a reunited co-parcener goes to the co-parcener; what a learned co-parcener has acquired by his own labour may be withheld from his unlearned co-parceners and unlearned co-parceners should divide their acquisitions equally.²¹⁷⁷

A brahmin's son by a kṣatriya wife, if the eldest, shares equally with a younger brother by a brahmin wife. The sons of a kṣatriya by a vaiśya wife share equally. The son by a śūdra wife, if virtuous, is maintained, while even the son of a wife of equal caste does not inherit, if he be living unrighteously.²¹⁷⁸ According to Baudhāyana²¹⁷⁹ the sons of wives of different castes will take four, three, two and one shares according to the order of castes. According to Vasiṣṭha²¹⁸⁰ if a brahmin has sons by brahmin, kṣatriya and vaiśya wife, the first gets three shares, the second two and the third one share. Āpastamba, however, protests against such unequal division of property and declares that all the virtuous sons should inherit but he who spends money unrighteously shall be disinherited, though he be the eldest son.²¹⁸¹

Ordinarily the heirs should pay the debts of a deceased person. But the money due to the parents of a bride, immoral debts and fine shall not devolve upon the sons of a debtor.²¹⁸²

(d) *Land revenue* : (i) *the amount of the royal share*—The Jātakas make it clear that in the monarchies the king had a right to a portion of the produce of the soil. In the Kurudharma Jātaka²¹⁸³ a person having

²¹⁷⁵ XVIII. 42 f.

²¹⁷⁶ II. 2. 3. 2 f.

²¹⁷⁷ Gautama, XXVIII. 27. 31.

²¹⁷⁸ Ibid., XXVIII. 35—40.

²¹⁷⁹ II. 2. 3. 2—10.

²¹⁸⁰ XVIII. 42—50.

²¹⁸¹ II. 6. 14. 1—15.

²¹⁸² Gautama, XII. 40—41.

²¹⁸³ No. 276 : Imamhā kedārā mayā
rañño bhāgo databbo, adiunnabhā-
gato yeva cha me kedārato śālisī-
samuṭṭhi gāhāpita.

carelessly plucked a handful of corn from his own field regrets : "From this field I have yet to give the king his due, and I have taken a handful of corn from an untithed field." The exact share of the king is not known. Baudhāyana²¹⁸⁴ prescribes one-sixth of the income of the subjects as the pay of the king. According to Vasiṣṭha²¹⁸⁵ the the royal share is a sixth part of the wealth of the subjects. According to Gautama²¹⁸⁶ cultivators must pay to the king a tax amounting to one-tenth, one-eighth or one-sixth of the produce. This difference in the royal share was due probably to the differences in the nature of the soil. A great deal also depended on the whim of the king, for, he seems to have exercised the right of increasing the taxes at will²¹⁸⁷ or of remitting them.²¹⁸⁸ Again according to Vasiṣṭha²¹⁸⁹ no taxes are to be paid on the usufruct of river, dry grass, forest, (places of) combustion and mountains.

(ii) *Land survey*—For the purpose of an accurate realisation of revenue land surveys were also made. In the Kāma Jātaka²¹⁹⁰ we find the royal officers taking a survey of the fields. In the Kurudharma Jātaka²¹⁹¹ we read that one day the Rajjugāhakamacheha (literally the rope-holding minister) was measuring a field by tying a rope to a stick and giving one end of the rope to the owner of the field to hold, while himself keeping the stick into his own hand. The rope-holding minister (or surveyor) happened to put the stick in a crab's hole with the crab inside, whereupon he thought : 'If I put the stick into the hole, the crab in the hole will be hurt ; if I put it on the other side the king's property will lose ; and if I put it on this side, the farmer will lose.'

(iii) *Land revenue administration*—The local officials who carried on the civil, judicial and military administration appear also to have carried on the work of collecting the revenue. The Central Government, however,

²¹⁸⁴ I. 18 1 (= S. B. E., Vol. XIV. p. 199)

²¹⁸⁵ I. 42 (= S. B. E., Vol. XIV. p. 8)

²¹⁸⁶ X. 24. 27 (= S. B. E. Vol. II. pp. 229—30).

²¹⁸⁷ Gagga Jātaka (No. 155); Mahāsutasoma Jātaka (No. 302).

²¹⁸⁸ Kāma Jātaka (No. 467).

²¹⁸⁹ XIX. 26 (= S. B. E), Vol. XIV. p. 99.

²¹⁹⁰ No. 467 : Rājakammikā khetappa-mānā-gahanatthāya tam gāmam agamimsu.

²¹⁹¹ No. 276.

maintained a body of officials who co-operated with the local bodies in this respect. In the Jātaka period Northern India was divided into sixteen independent states (ṣoḷaśamahājanapadāni).²¹⁹² Some of these states were organised into provinces under viceroys and the province into districts (janapada) and villages. Thus the Kama Jātaka²¹⁹³ tells us that a prince, having at first no desire to rule his kingdom, left it but later on became greedy and won over a village. Then he wanted to have the janapada and the viceroyalty (uparājjam) as well. The Mahāswapna Jātaka²¹⁹⁴ also refers to kingdom (raṭṭa), district (janapada) and village (gāma) in successive order. From the Kharamvara Jātaka²¹⁹⁵ we find that the revenue specially from the distant border villages was collected by an amachcha. According to Āpastamba²¹⁹⁶ the king should appoint men of the first three castes who are pure and truthful over villages and towns.....(and) shall make them collect the lawful taxes. The royal share known as vali was collected generally in kind. The produce of the field was taken to the public granary for the excision of the royal tithe before being taken to the barns of the respective owners. Such public granaries were in charge of officers who are aptly called Droṇa-māpaka mahāmatto. In the Kurudharma Jātaka²¹⁹⁷ we are told that sitting at the door of the granary he caused to be measured the king's share of the produce. The tax was collected by officials called Valisādhaka and Rājakkammika.²¹⁹⁸ Though the vali was usually paid in kind, cash payment was not altogether unknown. Thus the Vardhaki-śūkara Jātaka²¹⁹⁹ records the gift of the sata-sahasutthāyikam Kāsīgāmam [a village of Kāśī yielding 100,000 (kahāpaṇas) as revenue]. The Avārya Jātaka²²⁰⁰ also refers to a village yielding the same amount.

Agriculture—Most of the arable land was cultivated by peasant-proprietors (khetṭapati, vatthupati) and cultivation of lands by peasants

²¹⁹² Rhys Davids—Buddhist India, p. 23.

²¹⁹³ No. 467.

²¹⁹⁴ No. 77.

²¹⁹⁵ No. 79.

²¹⁹⁶ II. 26. 4. 9 (—S. B. E., Vol. II. pp. 163—64).

²¹⁹⁷ No. 276 : Koṭṭhāgaradvāre nisiditvā rājabhāge vhiṃ mināpento.

²¹⁹⁸ Kāma Jātaka (No. 467); Gaṇḍatindu Jātaka (No. 520).

²¹⁹⁹ No. 283.

²²⁰⁰ No. 376.

for princes was regarded as a mark of social decay.²²⁰¹ From the *Mahāvagga*²²⁰² we learn that Buddhist saṅghas sometimes cultivated lands belonging to private persons and used to get half of the produce as their share or sometimes let out their own lands in lieu of half of the produce. "Of the seedlings belonging to the Saṅgha, grown upon private ground, half the produce, O Bhikkhus, you may have, when you have given a part to the private owner. Of seedlings belonging to private persons grown up on the ground, the property of the Saṅgha, you may have the use, when you have given a part to the owner."

(a) *Agricultural operations*: In the *Suttanipāṭa* we have the story of Kāśi Bharadvāja where we find mention of the plough (nangala), the oxen-team, the yoke (yuga) and the goad (pīcana). The *Śākuna Jātaka*²²⁰³ describes the successive stages of agriculture. In it we are told that when a Buddhist monk asked the villagers to build a house for him the latter agreed to do so after the rains have come and watered their fields; when the rains came and watered their fields they agreed to build the house for the monk after sowing the seeds; when seeds were sown they agreed to do the monk's work after enclosing their fields; when their fields were fenced, they agreed to do the monk's work after clearing up the weeds in their fields; when the weeds were cleared up they agreed to do the monk's work after reaping the harvest; when the harvest was reaped, they agreed to do the monk's work after the corn had been threshed on the threshing floor; in this way the work of building a house for the monk was indefinitely put off. In the *Chullavagga*²²⁰⁴ *Mahānāma* the Śākyan thus describes the farming operations: "First you have to get your fields ploughed. When that is done, you have to get the water let down over them. When that is done, you have to get the water let off again. When that is done, you have to get the weeds pulled up. When that is done, you have to get crops reaped. When that is done, you have to get the crops carried away. When that is done, you have to get it arranged in bundles. When that is done, you have to get it trodden out.

²²⁰¹ *Jātaka* I. 339.

²²⁰³ No. 36.

²²⁰² VI. 39, i (= S. B. E., Vol. XVII. p. 143)

²²⁰⁴ VII. 1, 2.

When that is done you have to get the straw picked out. When that is done, you have to get all the chaff removed. When that is done, you have to get it winnowed. When that is done, you have to get the harvest garnered. When that is done, you have to do just the same the next year and the same all over again the year after". The Uraga Jātaka (No. 354) refers to the custom of maid-servants bringing food to the cultivators working in the field.

(b) *Protection of the crops* : In the Rigvedic period the cultivators kept away birds from the corn fields by making din and noise.²²⁰⁵ But in this period as the Śīlikeḷāra Jātaka²²⁰⁶ shows, nets made of the hair of horse's tail were used for catching birds that used to eat up the crops. The Mahāvagga (I. 50) even refers to the use of scare-crows. In the Lakṣaṇa Jātaka²²⁰⁷ we find that to kill the deer which used to eat up the harvest, the cultivators used to dig up pits, place snares, fix stakes and pāsāṇa-yanta (stone-made instruments to catch beasts).

(c) *Ceremonies connected with agriculture* :—For success in agriculture the Gṛhyasūtras prescribe a number of ceremonies. Thus there is a rite for ploughing when sacrifice is made to aśani (thunderbolt) and to Sītā (furrow) as well as to Aradā, Anghā, Parjanya, Indra and Bhaga with similar offerings on the occasion of the threshing floor sacrifice, when one reaps the harvest or sows the seeds, all portraying the life of the agriculturist who also offers a sacrifice at mole-heaps to Akhurāja, the king of moles.²²⁰⁸

(d) *Rainfall* :—The North-western part of the country seems to have enjoyed sufficient rainfall. Aristobulus²²⁰⁹ recorded that rains began when the European army reached Taxila in the spring of 326 B. C. and became continuous with the prevalence of the monsoon, all the time they were marching eastward along the foothills of the Himalayas. When the Greeks looked round upon the features of the country India seemed, before anything

²²⁰⁵ Rig Veda, X. 68. 1

²²⁰⁶ No. 484.

²²⁰⁷ No. 11.

²²⁰⁸ Govila Gṛhyasūtra, IV. 4. 28f ;
Ibid., 30f.

²²⁰⁹ Fragment 29—Strabo XV. C. 691 ;
cf. C. 697.

else to be the land of rivers.²²¹⁰ Megasthenes mentions 58 rivers of which thirty-five names are preserved and are still recognisable to-day.²²¹¹

(e) *Irrigation* :—Despite this natural supply of water various methods of irrigation were also known. From the Dharmapada²²¹² it appears that the boundaries of each house-holder's plot of arable land were made by channels dug for co-operative irrigation. These dividing ditches, rectangular and curvilinear, were likened to a patch-work robe, prescribed by the Buddha as a pattern for the uniform of his order.²²¹³ The Kāma Jātaka²²¹⁴ speaks of a brahmin making little embanked squares for water. We also hear of the rivers being dammed for the purpose of irrigation. We thus read in the Kunāla Jātaka : ²²¹⁵ "The Śākya and the Koliya had the river Rohini which flows between the cities of Kapilavastu and Kolia, confined by a single dam and by means of it cultivated their crops. In the month of Jeṭṭamula when crops began to flag and droop, the labourers from both the cities assembled together. Then the Koliya said 'Should this water be drawn off on both sides it will not prove sufficient for both us and you. But our crops will thrive with a single watering, give us then the water.'"

(f) *Cultivated plants* :—The Gṛhyasūtras prove that there were two harvests a year and that the people long realised the advantages of a rotation crops in that a season of barley was succeeded by one of rice.²²¹⁶ As to the cultivated plants we find the names of (1) vṛhi (rice)²²¹⁷ (2) gandha-

²²¹⁰ Strabo XV. C. 689.

²²¹¹ Fragment 18—Arrian—Indica, 4 ;
Pliny—Natural History, VI. Art.
64f.

²²¹² Dhṛ., verse 80—145—Therag. 19.

²²¹³ Vinaya Texts, II. 207—09 ; Mah.,
VIII. 12 ; cf. Psalms of the
Brethren, p. 152.

²²¹⁴ No. 466.

²²¹⁵ No. 536.

²²¹⁶ Vṛhiprabhṛtya ā yavebhyo yave-

bhyo vā vṛhibhya swayam haret
svayam haret—Khadira Gṛhya-
sūtra, I. 5. 37 (=S. B. E., Vol.
XXIX. p. 388) ; also Govila Gṛhya-
sūtra, I. 4. 29.

²²¹⁷ Mahāsvapna Jātaka (No. 77) ;
Sudhābhajana (No. 535) ; Aśvalā-
yana Gṛhyasūtra, I. 11. 2 ; I. 9. 6 ;
I. 17. 12 ; Sāṅkhyāyana Gṛhyasūtra,
I. 17. 7 ; I. 22. 5 ; I. 24. 3 ; I. 28. 6 ;
III. 1. 3.

śāli²²¹⁸ (3) chinaka²²¹⁹ (4) taṇḍulā²²²⁰ (5) śyāmaka²²²¹ (6) yava²²²² (7) godhuma²²²³ (8) mudga²²²⁴ (9) mīsa²²²⁵ and (10) sugarcane.²²²⁶

The Jātakas²²²⁷ refer to the parṇikas who used to earn their living by growing green vegetables on their fields. Among the green vegetables we find the mention of (1) gourd (alāvu)²²²⁸ (2) pumpkin (kuṣmāṇḍa,²²²⁹ vali-va)²²³⁰ (3) cucumber²²³¹ (4) ervārūka (a kind of cucumber)²²³² (5) yag-dummura (a kind of fig)²²³³ (6) garlic²²³⁴ (7) rutish (mūlī)²²³⁵ (8) a kind of sweet potatoes (mīluvī)²²³⁶ and (9) pot-herbs or esculent vegetables (śāka).²²³⁷ The Viśwantara Jātaka²²³⁸ refers to karoti (=rūjamīsa = Bengali varhati) and to kalamvī. The leaves of a shrub (gulma) called kāra²²³⁹ and of Indravaruṇī tree²²⁴⁰ were taken by the people after boiling them. Among different varieties of kanda (bulbous or tuberous

= Scented rice (Keśava Jātaka No. 346).

²²¹⁹ = Sanskrit vṛhibheda (Sudhābhojana Jātaka No. 535).

²²²⁰ Nikkūṇḍaka thusā swayanujāta taṇḍulasāni—rice that comes from the plant, having no husk etc. (Sudhābhojana Jātaka No. 535).

²²²¹ The seeds of a kind of grass called śyāmā which were eaten by the poor (Sudhābhojana Jātaka No. 535).

²²²² Mahāswapna Jātaka (No. 77); Āśvālāyana Gṛhyasūtra, I. 11. 2; I. 9. 6; I. 17. 2; Sāṅkhyāyana Gṛhyasūtra, I. 24. 3; I. 28. 6; III. 1. 3; IV. 4. 9.

²²²³ Mahāswapna Jātaka (No. 77).

²²²⁴ Mahāswapna Jātaka (No. 77); Sāṅkhyāyana Gṛhyasūtra I. 22. 5; Pāraskara Gṛhyasūtra, I. 15. 4.

²²²⁵ Mahāswapna Jātaka (No. 77).

²²²⁶ Ibid. The word hareṇukā occurs in the Sudhābhojana Jātaka (No. 77). In Pāli it is the collective name for mudga, māṣa, tila,

alāvu and kuṣmāṇḍa. In Sanskrit it means a kind of beans.

Kuddāla Jātaka (No. 70); Parṇika Jātaka (No. 102).

Kuddāla (No. 70); Mahāswapna (No. 77); Parṇika (No. 102); ṣaḍadanta (No. 514); Soumanasya (No. 505).

Kuddāla Jātaka (No. 70); Parṇika (No. 102); Soumanasya (No. 505); ṣaḍadanta (No. 514).

²²³⁰ Viśwantara Jātaka (No. 547).

²²³¹ Kuddāla Jātaka (No. 70).

²²³² = Pāli Elāluka (ṣaḍadanta No. 514).

²²³³ Uḍumvara Jātaka (No. 298).

²²³⁴ Viśwantara (No. 547); Sivarṇa-harpa (No. 136).

²²³⁵ Pañchāyudha Jātaka (No. 55).

²²³⁶ Sudhābhojana (No. 535); Kunāla (No. 536); Viśwantara (No. 547).

²²³⁷ Kuddāla Jātaka (No. 70); Parṇika (No. 102).

²²³⁸ No. 547.

²²³⁹ Akīrti Jātaka (No. 480).

²²⁴⁰ Ibid.; Kṛṣṇa Jātaka (No. 440).

roots) the Takkala²²⁴¹ and Viśwantara Jātakas²²⁴² mention (1) takkala (2) ālupa (3) virālikā and (4) kalamva which according to the commentator are (1) piṇḍālu (2) ālukanda (3) virālavalli kanda and (4) tīlakanda respectively.

Of oil-bearing plants sesamum²²⁴³ and mustard²²⁴⁴ are frequently mentioned. Among spices the Jātakas refer to (1) ādraka (ginger)²²⁴⁵ (2) jiraka (cumin-seed)²²⁴⁶ (3) marica²²⁴⁷ and (4) pippali (pepper).²²⁴⁸

Of colour-bearing plants indigo²²⁴⁹ was the most important.

As to fibrous plants kārṇpāsa is mentioned for the first time in the Āśvālāyana Śrautasūtra.²²⁵⁰ Herodotus also speaks of the cotton plant as yielding vegetable wool "surpassing in beauty and quality the wool of sheep and the Indians wear clothing from these trees."²²⁵¹ From the Mahāvagga we learn that śimula or cotton silk mentioned in the Jātakas²²⁵² was used in the preparation of quilts (tulika) stuffed with cotton-wool. Śana (Crotalaria Junica) is mentioned in the Sāṅkhyāyana Gr̥hyasūtra²²⁵³ and in the sūtras of Pāṇini. Linen flax (Linum Usitatissimum) was also known.²²⁵⁴ Makaci, a kind of fibre with which strainers were made is mentioned in the Vālo-daka Jātaka.²²⁵⁵

Forests and their economic importance—The forests continued as in the earlier periods to serve the purpose of natural pastures. "The

²²⁴¹ No. 446.

²²⁴² No. 547.

²²⁴³ Āśvālāyana Gr̥hyasūtra, I. 9. 6; I. 17.2; II. 4. 4; IV. 4.13; IV. 7. 11; Khadira Gr̥hyasūtra, II. 2. 26; I. 3. 18; IV. 1. 16; Pāraskara Gr̥hyasūtra, I. 15. 4; II. 6. 17; Sāṅkhyāyana Gr̥hyasūtra, I. 28. 6; III. 1. 3; IV. 1. 3; IV. 3. 4.

²²⁴⁴ Viśwantara Jātaka (No. 547); Pāraskara Gr̥hyasūtra, I. 17. 23; Sāṅkhyāyana Gr̥hyasūtra, III. 1. 3.

²²⁴⁵ Kapota Jātaka (No. 42); Godhā Jātaka (No. 325).

Kapota Jātaka (No. 42); Romaka (No. 277); Godhā (No. 325).

²²⁴⁷ Romaka (No. 277); Godhā (No. 325).

²²⁴⁸ Godhā Jātaka (No. 325).

Sāṅkhyāyana Gr̥hyasūtra, I. 23. 1; compare Nīli of Viśwantara Jātaka (No. 547).

²²⁵⁰ V. 4. 17.

²²⁵¹ McCrindle's Ancient India, III. 103.

²²⁵² Khullānārada Jātaka (No. 477).

²²⁵³ I. 24. 11.

²²⁵⁴ Chullaśreṣṭhi Jātaka (No. 4).

²²⁵⁵ No. 183.

Bodhisattva had a herdsman who when the corn was growing thick, drove his cows to the forest and kept them there at a shieling."²²⁵⁶ Secondly, they supplied the people with wild rice²²⁵⁷ and esculent vegetables.²²⁵⁸ In the third place, the forests were a perennial source of supply of fuel and timber.²²⁵⁹ In the fourth place, the forests supplied the people with aloe (aguru),²²⁶⁰ bdellium (guggulu),²²⁶¹ spikenard (naladi),²²⁶² camphor (karpūra),²²⁶³ liquorice (yaṣṭimadhu),²²⁶⁴ costus (kuṣṭha),²²⁶⁵ lac (lākṣā),²²⁶⁶ tail of a yak,²²⁶⁷ ivory²²⁶⁸ and sandalwood.²²⁶⁹ Sandalwood-powder used by ladies as a toilette for the breasts,²²⁷⁰ essence of sandalwood (candanasāra)²²⁷¹ and sandalwood oil²²⁷² were highly prized. In the fifth place, the forest-tracts served as habitations for certain classes of people. According to the Pañcha-upsattha Jātaka²²⁷³ people who had curbed their worldly desires inhabited these regions. The Sūtras²²⁷⁴ also describe different classes of hermits living in these forests. The forests were also the habitations of the Aṭaviyas who appeared to have been fully acquainted with the forest-paths and used to hire themselves out as guides to cara-

²²⁵⁶ Viśvāśabhañjana Jātaka (No. 93); Sandhibheda Jātaka (No. 349).

²²⁵⁷ Vālāhāśva (No. 196); Palāśa (No. 368); Viśwantara (No. 547). In the Viśwantara Jātaka wild rice of two different kinds is mentioned (1) Swayam Sātikā = Pāli Saṃsādiyā. According to commentator it is otherwise known as Sukaraśāli (2) Prasātikā = Pāli Pasādiyā.

²²⁵⁸ Parpika Jātaka (No. 102). Alinacitta Jātaka (No. 156). Bhallātika (No. 504); Khandahāla (No. 542); Viśwantara (No. 547). Mātāṅga Jātaka (No. 497); Viśwantara Jātaka (No. 547). Viśwantara Jātaka (No. 547).

²²⁵⁹ Viśwantara Jātaka (No. 547); Andhabhūta Jātaka (No. 62).

²²⁶⁴ Viśwantara Jātaka (No. 547).

²²⁶⁵ Ibid.

²²⁶⁶ Nyagrodhamṛga Jātaka (No. 12); Kṣhāntivādi (No. 313); Suvarṇamṛga (No. 359); Vidurapaṇḍita (No. 545).

²²⁶⁷ Nyagrodhamṛga Jātaka (No. 12).

²²⁶⁸ Kāṣāya Jātaka (No. 221).

²²⁶⁹ Kunāla Jātaka (No. 536); Viśwantara Jātaka (No. 547).

²²⁷⁰ Kuśa Jātaka (No. 537).

²²⁷¹ Kurudharma Jātaka (No. 276).

²²⁷² Kuśa Jātaka (No. 537).

²²⁷³ No. 490.

²²⁷⁴ Āpastamva, II.9. 13 (= S. B. E., Vol. II. p. 123.; Bauddhāyana, III. 3 (= S. B. E., Vol. XIV. p. 291 ff.; Gautama, III. 2 (= S. B. E., Vol. II. p. 192).

vans.²²⁷⁵ Lastly, some of the forest-tracts were extremely valuable for their supply of elephants. The earliest reference to elephant-forests (mātāṅgaruṇya) is probably in the Mahāvagga.²²⁷⁶ The Majjhima Nikāya also refers to elephant-preserves (nāgavana).²²⁷⁷

The various useful trees known to the people of this period are :—(1) Tirīti²²⁷⁸ = Tirita of Amara (2) Śallakī.²²⁷⁹ According to the commentator it is Indrasāla tree (= Boswellia Thurifera). From its extract (niryyāsa) a scent called lavān or kundurā was prepared (3) Karpūra (camphor)²²⁸⁰ (4) Khadira²²⁸¹ from which we get catechu (5) Bhaṅga²²⁸² from which a narcotic (hemp) is obtained (6) Aśvakarna²²⁸³ (7) Aśvattha²²⁸⁴ (8) Palāśa²²⁸⁵ (9) Tvaksāra (bamboo)²²⁸⁶ (10) Kūṭaja²²⁸⁷ (11) Visa²²⁸⁸ (12) Śimula (silk-cotton tree)²²⁸⁹ (13) Śīla²²⁹⁰ (14) Tilaka²²⁹¹ (15) Soubhañjana (= Sajinā)²²⁹² (16) Varuṇa²²⁹³ (17) Vūrjja (Birch)²²⁹⁴ (18) Velīśa²²⁹⁵ (19) Venu²²⁹⁶ (20) Muchakunda²²⁹⁷ (21) Picu-

Kehurapra Jātaka (No. 265);
Jayaddhisa (No. 513).

X. 3. 1.

See Epigraphica Indica, Vol. II.
p. 265).

Kunāla Jātaka (No. 535).

Viśwantara Jātaka (No. 547); Mātṛ-
poṣaka Jātaka (No. 455).

Aniḥabhūti Jātaka (No. 62); Viś-
wantara (No. 547).

Kapḍagalaka Jātaka (No. 210); Viś-
wantara (No. 547).

Sudhābhojana Jātaka (No. 535).

Kakkara Jātaka (No. 209); Viśwan-
tara (No. 547).

Saṅkalpa Jātaka (No. 210); Palāśa
(No. 365); Sudhābhojana (No. 535);
Viśwantara (No. 547).

Palāśa Jātaka (No. 365); Palāśa (No.
368); Viśwantara (No. 547).

²²⁸⁶ Tvaksāra Jātaka (No. 368).

²²⁸⁷ Mātṛpoṣaka Jātaka (No. 455); Ku-
nāla (No. 536); Viśwantara Jātaka
(No. 547).

²²⁸⁸ Mātṛpoṣaka Jātaka (No. 455).

²²⁸⁹ Khullanārada Jātaka (No. 477).

²²⁹⁰ Bhallāṭika (No. 504); Chāmpeya
(No. 506); Nalinikā (No. 526);
Sudhābhojana (No. 535); Kunāla
(No. 536); Viśwantara (No. 547).

Nalinikā (No. 526); Sudhābhojana
(No. 535); Kunāla (No. 536);
Vidurapaṇḍita (No. 545).

Sudhābhojana (No. 535); cf. Akṣiva
= Sajinā in Viśwantara Jātaka
(No. 547); Sovāñjana = Sajinā in
Viśwantara Jātaka (No. 547).

²²⁹³ Sudhābhojana (No. 535); Karerī =
Varuṇa in Viśwantara (No. 547).

Sudhābhojana (No. 535); Kunāla
(No. 536); Nalinikā (No. 526).

²²⁹⁵ Sudhābhojana Jātaka (No. 535).

²²⁹⁶ Ibid.

²²⁹⁷ Sudhābhojana Jātaka (No. 535);
Vidurapaṇḍita (No. 545); Muchi-
linda = Muchakunda in Kunāla
Jātaka (No. 536).

manda (= Neem)²²⁹⁸ (22) Kuravaka²²⁹⁹ (23) Chetasa²³⁰⁰ (24) Ba-
juḍa²³⁰¹ (= sanskrit Vañjula) (25) Punnāga²³⁰² (26) Priyaka²³⁰³ (= Piyā-
śāla) (27) Āsana²³⁰⁴ (28) Sarala²³⁰⁵ (Pine) (29) Kṛtṛgula (= Kālā-
guru)²³⁰⁶ (30) Padīnaka²³⁰⁷ (31) Devadāru²³⁰⁸ (32) Kakudha (=
Kakubha = Arjuna)²³⁰⁹ (33) Kachchikāra²³¹⁰ (34) Tūṇa (= Toon)²³¹¹
(35) Kaṇavera (= Karavira)²³¹² (36) Karaṇḍaka²³¹³ (37) Kovidūra²³¹⁴
(38) Anangana²³¹⁵ (39) Anavajja²³¹⁶ (40) Suruchira²³¹⁷ (41) Bhaginī²³¹⁸
(42) Dhanukārika²³¹⁹ (43) Tālisa (= Tāli = Paniyal)²³²⁰ (44) Koṭṭa²³²¹
(45) Saptaparṇi²³²² (46) Uparibhadra²³²³ (47) Karajāṇa (= Karañjaka = Dal-
bergea Arboorea)²³²⁴ (48) Dhava.²³²⁵ It is called Dhao tree in Orissa and in
the Santhal Pargannas (49) Dhātṛi²³²⁶ (50) Vallika²³²⁷ (51) Putrañjiva²³²⁸
(52) Kosamva²³²⁹ (53) Somavṛkṣa²³³⁰ (54) Paṇḡura²³³¹ (55) Mahā-

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| Pāli Pachimanda (Pichumanda
Jātaka (No. 510). | Viśwantara (No. 547); Kunāla
Jātaka (No. 536). |
| Kunāla Jātaka (No. 536); Śveta-
puṣpā Jhinti = Kuravaka while
pīṭaḥ uṣṇā Jhinti = Kurupṭaka. | ²²¹⁵ Kunala Jātaka (No. 536). |
| ²³⁰⁰ Ibid. | ²³¹⁶ Ibid. |
| ²³⁰¹ Ibid. | ²³¹⁷ Ibid. |
| ²³⁰² Ibid.; Viśwantara Jātaka (No. 547). | ²³¹⁸ Ibid.; cf. Bhaginīmāla in Vidura-
paṇḍita Jātaka (No. 545). |
| ²³⁰³ Kunāla Jātaka (No. 536); Asana =
Piyāśāla in Viśwantara (No. 547);
cf. Ajurkarṇa = Piyāśāla in Viśwan-
tara (No. 547). Piyāśāla = Pentap-
tera tomentos. | ²³¹⁹ Kunāla Jātaka (No. 536). According
to the commentator it is the same
as Dhanupātali. |
| ²³⁰⁴ Kunāla Jātaka (No. 536). | ²³²⁰ Kunāla Jātaka (No. 536); Viśwan-
tara Jātaka (No. 547). |
| ²³⁰⁵ Ibid.; Viśwantara Jātaka (No. 547). | ²³²¹ Kunāla Jātaka (No. 536). |
| ²³⁰⁶ Kunāla Jātaka (No. 536). | ²³²² Vidurapaṇḍita Jātaka (No. 545);
Viśwantara Jātaka (No. 547). |
| ²³⁰⁷ Ibid., Viśwantara Jātaka (No. 547). | ²³²³ Vidurapaṇḍita Jātaka (No. 545).
Uparibhadra = Bhadraka = either
Devāduru or Kadamba. |
| ²³⁰⁸ Kunāla Jātaka (No. 536). | ²³²⁴ Viśwantara Jātaka (No. 547). |
| ²³⁰⁹ Ibid.; Viśwantara (No. 547); cf.
Kakuda in Viśwantara (No. 547). | ²³²⁵ Spandana Jātaka (No. 475);
Viśwantara Jātaka (No. 547). |
| ²³¹⁰ Ibid. | ²³²⁶ Viśwantara Jātaka (No. 547). |
| ²³¹¹ Kunāla Jātaka (No. 536). | ²³²⁷ Ibid. Vallika = Vallātaka (?). |
| ²³¹² Ibid. | ²³²⁸ Viśwantara Jātaka (No. 547). |
| ²³¹³ Viśwantara (No. 547). It may be
Kurupṭaka of Amara; cf. Korapda
of Kunāla Jātaka (No. 536). | ²³²⁹ Ibid. |
| | ²³³⁰ Ibid. Somavṛkṣa = Soma plant (?). |

nāma²³³² (56) Śvetaparni²³³³ (57) Śvetāguru²³³⁴ (58) Jaṭamāṃsi²³³⁵ (59) Nilapūṣpi²³³⁶ (60) Śvetavāri²³³⁷ (61) Kateruha²³³⁸ (62) Tulasi plant²³³⁹ (63) Asitaru²³⁴⁰ (64) Katamāla (Viśwantara Jātaka) = Kṛtamāla of Amara = Sonāli (65) Cocha (Kunāla Jātaka). According to Amara it belongs to the 'guṛatvak' species (66) Phaṇijjaka (Viśwantara Jātaka) = Phaṇijjhaka of Amara. According to Amara it belongs to the 'Jamvira' species and (67) Kakkola from which a gandhadravya was prepared.

Among the flower plants and trees the following are mentioned in the literature of this period :—(1) Kusumbha (safflower)²³⁴¹ (2) Kaṇṇikīra = Uddālaka = Sonāli = Casia fistula²³⁴² (3) Kaṇṭakuraṇḍa²³⁴³ (4) Kimśūka²³⁴⁴ (5) Kadamva²³⁴⁵ (6) Aṅkola =²³⁴⁶ Aṅkolaka = Aṅkolla = Aṅkolā = Aṅkoṭha (?) of Amara. According to the author of Flora Indica it is Bengali Ākārakaṇṭha. (7) Sattali (Pāli) = Sans. Saptali = Bengali Navamālikā²³⁴⁷ (8) Mādhavi²³⁴⁸ (9) Yūthikā²³⁴⁹ (10) Lodhra²³⁵⁰ (11) Sthalapadma (plant)²³⁵¹ (12) Ketaki²³⁵² (13) Vakula²³⁵³ (14) Cham-

²³³¹ Viśwantara Jātaka (No. 547).

²³³² Ibid.

²³³³ Ibid.

²³³⁴ Ibid.

²³³⁵ Ibid.

²³³⁶ Ibid.

²³³⁷ Ibid.

²³³⁸ Ibid.

²³³⁹ Ibid.

²³⁴⁰ Ibid. The commentator adds the gloss : Siniddhāya bhūmiyaṃ thitā tālāviya rukkhā.

²³⁴¹ Puṣpabhakta Jātaka (No. 147).

²³⁴² Dardara (No. 172); Bhallāṭika (No. 504); Chāampeya (No. 506); Nalinikā (No. 526); Sudhābhhojana (No. 535); Kunāla (536); Khaṇḍahāla (No. 542); Vidurapaṇḍita (No. 545); Viśwantara (No. 547).

²³⁴³ Dardara (No. 172); cf. Karandaka in Viśwantara Jātaka (No. 547).

²³⁴⁴ Kimśukopama Jātaka (No. 246); Kunāla (No. 536); Viśwantara

(No. 547). The Viśwantara Jātaka (No. 547) refers to a plant called Kimśukalatikā.

Mahotkrośa (No. 486); Nipa = Kadamva in Kimchhando (No. 511) and Viśwantara (No. 547).

²³⁴⁶ Vallāṭika Jātaka (No. 504); Kunāla (No. 536); Viśwantara (No. 547).

²³⁴⁷ Vallāṭika Jātaka (No. 504)

²³⁴⁸ Vallāṭika Jātaka (No. 504); Atimuktaka = Atimukta = Mādhavīlātā in Kunāla Jātaka (No. 536).

Vallāṭika Jātaka (No. 504); Yodhi = Yodhikā = Yūthikā in Kunāla (No. 536) and Viśwantara (No. 547).

²³⁵⁰ Sudhābhhojana Jātaka (No. 535).

Ibid.; Viśwantara (No. 547).

Sudhābhhojana (No. 535); Kunāla (No. 536); Vidurapaṇḍita (No. 545); Viśwantara (No. 547).

²³⁵³ Kunāla Jātaka (No. 536); Viśwantara Jātaka (No. 547).

paka²³⁵⁴ (15) Aśoka²³⁵⁵ (16) Nāgakeśara²³⁵⁶ (17) Vanamallikā²³⁵⁷ (18) Tagara²³⁵⁸ (19) Nāgamālikā²³⁵⁹ (20) Nāgavallī²³⁶⁰ (21) Madhuka²³⁶¹ (22) Nyagrodha²³⁶² (23) Kuravaka²³⁶³ (24) Pātali²³⁶⁴ (25) Sindhuvāra = Niṣindā²³⁶⁵ (26) Bhaṇḍi = Bhaṇḍila = Śiriṣa or Ghentū flower²³⁶⁶ (27) Jāti²³⁶⁷ (28) Sumana²³⁶⁸ = Davala Yūthikā or Mallikā (29) Madhugandhika²³⁶⁹ (30) Śwetachchha²³⁷⁰ (31) Raktamāla = Naktamāla²³⁷¹ (32) Śiṃśapā²³⁷² (33) Aśphotaka²³⁷³ (34) Sūryyavallī²³⁷⁴ (35) Anoja²³⁷⁵ (36) Vāsanti²³⁷⁶ (37) Kimpśukalatikā²³⁷⁷ (38) Padmottara²³⁷⁸ and (39) Elāmvarā²³⁷⁹ a plant of the drākṣā species the scent of whose flowers last for a week.²³⁸⁰

Among the fruit trees of this period the following are the most important :—(1) Mango²³⁸¹ (2) Dhruvaphalo Amvo (mango tree which yeilded

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| ²³⁵⁴ Kunāla Jātaka (No. 536); Vidurapāṇḍita Jātaka (No. 545). | 545). Compare Nirguṇḍī = Niṣindā in Viśwantara Jātaka (No. 547). |
| ²³⁵⁵ Kunāla (No. 536); Khaṇḍahāla (No. 542); Viśwantara (No. 547). Viśwantara (No. 547); cf. Nāgarukha (Pāli) = Nāgavṛkṣa = Nāgakeśara (?) in Kunāla (No. 536). Kunāla Jātaka (No. 536). Ibid.; Viśwantara (No. 547). | ²³⁶⁶ Kunāla (No. 536); Viśwantara (No. 547); Śiriṣa is mentioned in Viśwantara Jātaka (No. 547). Kunāla Jātaka (No. 536); Viśwantara Jātaka (No. 547). |
| ²³⁵⁹ Vidurapāṇḍita (No. 545). In the Drāviḍa land a kind of Yūthikā flower is called Nāgamalli. | ²³⁶⁸ Kunāla Jātaka (No. 536). |
| ²³⁶⁰ Viśwantara Jātaka (No. 547). | ²³⁶⁹ Viśwantara Jātaka (No. 547). |
| ²³⁶¹ This tree yields Mahuā flower. Mahāsvapna (No. 77); Saṃkalpa (No. 251); Śaktigulma (No. 503); Sudhābhojana (No. 535). | ²³⁷⁰ Ibid. |
| ²³⁶² Saṃkalpa Jātaka (No. 251); Sudhābhojana (No. 535). | ²³⁷¹ Ibid. |
| ²³⁶³ Vallāṭika Jātaka (No. 504). | ²³⁷² Ibid. |
| ²³⁶⁴ Vallāṭika (No. 504); Chāmpēya (No. 506); Nalinikā (No. 526); Sudhābhojana (No. 535); Khaṇḍahāla (No. 542); Viśwantara (No. 547). Vallāṭika (No. 504); Sudhābhojana (No. 535); Vidurapāṇḍita (No. | ²³⁷³ Ibid. Is it Āsphotā of Amara? Āsphotā is another name of Aparājita. |
| | ²³⁷⁴ Ibid. |
| | ²³⁷⁵ Ibid. |
| | ²³⁷⁶ Ibid. |
| | ²³⁷⁷ Ibid. |
| | ²³⁷⁸ Ibid. |
| | ²³⁷⁹ Ibid. |
| | ²³⁸⁰ Ibid. |
| | ²³⁸¹ Daśabrāhmaṇa Jātaka (No. 495); Chāmpēya (No. 506); Nalinikā (No. 526); Khaṇḍahāla (No. 542); Vidurapāṇḍita (No. 545); Viśwantara (No. 547). |

mangoes throughout the year)²³⁸² (8) Jamvu (black-berry tree)²³⁸³ (4) Vilva²³⁸⁴ (5) Vadari²³⁸⁵ (6) Kapittha²³⁸⁶ (7) Kharjjura²³⁸⁷ (8) Tāla²³⁸⁸ (9) Cocoanut²³⁸⁹ (10) Haritaki²³⁹⁰ (11) Āmalaki²³⁹¹ (12) Vibhitaka (Vahedī)²³⁹² (13) Tinduka (Gāva or Ebony)²³⁹³ (14) Uḍamvara²³⁹⁴ (15) Kuruvinda = Mūthā or Vādāma (Terminalia catappa)²³⁹⁵ (16) Panasa²³⁹⁶ (17) Piyāla²³⁹⁷ (18) Lakucha²³⁹⁸ (19) Lavuḷa²³⁹⁹ (20) Kāra, a shrub²⁴⁰⁰ (21) Kadali (plantain)²⁴⁰¹ (22) Mocha (Pāli).²⁴⁰² According to the commentator it is aṣṭikadali (= Bengali Vichekalī) (23) Timvaru²⁴⁰³ which yields a kind of Gāva fruit (Diospyros glutinosa) (24) Drākṣā (vine)²⁴⁰⁴ (25) Saha²⁴⁰⁵ (= Sahakīra, according to the commentator). The tree which yields scented mangoes is called Sahakīra (Sahakīraḥ atisoura-bhaḥ). In Sanskrit, however, Saha means other kinds of trees like Rāśnā.

Among shrubs, plants and trees yielding scents we find (1) Haridrī²⁴⁰⁶ (turmeric, curcuma, haldi) (2) Kuṣṭha (costus)²⁴⁰⁷ (3) Agurū (aloe)²⁴⁰⁸ (4) Narada (= nalada, naladi, spikenard)²⁴⁰⁹ (5) Guggulu (bdellium)²⁴¹⁰

²³⁸² Śavaka Jātaka (No. 309).

²³⁸³ Daśabrāhmaṇa Jātaka (No. 495).
Chāmpeya (No. 506); Nalinikā (No. 526); Sudhābhojana (No. 535);
Vidurapaṇḍita (No. 545); Viś-
wantara (No. 547).

²³⁸⁴ Daśabrāhmaṇa Jātaka (No. 495).

²³⁸⁵ Ibid.; Viśwantara (No. 547).

²³⁸⁶ Viśwantara Jātaka (No. 547).

²³⁸⁷ Ibid. Keka = Koka (?) = Kharjjura
in Sudhābhojana Jātaka (No. 535).

²³⁸⁸ Vinilaka Jātaka (No. 160); Markaṭa
(No. 173); Suvarṇakarkaṭa (No.
389); Viśwantara (No. 547); cf.
Vibhedaka = Tāla tree in Viśwan-
tara Jātaka (No. 547)

²³⁸⁹ Viśwantara Jātaka (No. 547).

²³⁹⁰ Daśabrāhmaṇa Jātaka (No. 495);
Viśwantara (No. 547).

²³⁹¹ Daśabrāhmaṇa Jātaka (No. 495).

²³⁹² Karkara (No. 209); Daśabrāhmaṇa
(No. 495); Viśwantara (No. 547).

²³⁹³ Tinduka Jātaka (No. 177); Palāśa
(No. 305); Śaktigulma (No. 503);
Sudhābhojana Jātaka (No. 535).

²³⁹⁴ Saṅkalpa Jātaka (No. 251).

²³⁹⁵ Mātṛpoṣaka Jātaka (No. 455).

²³⁹⁶ Viśwantara Jātaka (No. 547).

²³⁹⁷ Daśabrāhmaṇa Jātaka (No. 495);
Śaktigulma (No. 503).

²³⁹⁸ Daśabrāhmaṇa Jātaka (No. 495).

²³⁹⁹ Viśwantara Jātaka (No. 547).

²⁴⁰⁰ Śaktigulma Jātaka (No. 503).

²⁴⁰¹ ṣaḍadanta Jātaka (No. 514); Sudhā-
bhojana (No. 535).

²⁴⁰² Sudhābhojana Jātaka (No. 535).

²⁴⁰³ Viśwantara Jātaka (No. 547).

²⁴⁰⁴ Ibid.

²⁴⁰⁵ Vidurapaṇḍita Jātaka (No. 545).

²⁴⁰⁶ Viśwantara Jātaka (No. 547).

²⁴⁰⁷ Ibid.

²⁴⁰⁸ Ibid.

²⁴⁰⁹ Ibid.

²⁴¹⁰ Ibid.

(6) Yaṣṭimadhu²⁴¹¹ (liquorice) (7) Sandalwood²⁴¹² (8) Priyaṅga²⁴¹³ (9) Gandhaśīla²⁴¹⁴ (10) Bhādrāmūṣṭā²⁴¹⁵ (11) Śatapuṣpa²⁴¹⁶ (12) Jhāmaka²⁴¹⁷ (13) Tungavṛnta²⁴¹⁸ (14) Hrivera²⁴¹⁹ (15) Choraka²⁴²⁰ (16) Kalinga²⁴²¹ (17) Unnaka²⁴²² (18) Lolupa²⁴²³ (19) and Karpūra (camphor) already mentioned.

The following varieties of grass and reeds were also known in this period :—(1) Kṛśa²⁴²⁴ (2) Kuśa²⁴²⁵ (3) Potakila (Pāli) = Potagala (Sans).²⁴²⁶ It is a grass of the Śara species. (4) Pavvaja = Valvaja²⁴²⁷ (5) Muñja²⁴²⁸ and (6) Uśira (= Khaskhas).²⁴²⁹

Mines—As to minerals we find mention of (1) iron²⁴³⁰ (2) copper²⁴³¹ (3) lead²⁴³² (4) tin (ranga)²⁴³³ (5) silver²⁴³⁴ (6) gold²⁴³⁵ (7) yellow orpiment (haritīlī)²⁴³⁶ (8) maṇḥṣilā²⁴³⁷ and (9) hingulaka.²⁴³⁸ Precious stones like Vaidurya²⁴³⁹ and diamond²⁴⁴⁰ were also known. The production of gold must have been considerable in North-western India, for, according to Herodotus,²⁴⁴¹ the Indian satrapy of Darius paid a tribute exceeding that of every other people, to wit, three hundred and sixty talents of gold dust. The fact of India paying her tribute in gold naturally leads to the question—Where was the source of all this gold? According to Hero-

- ²⁴¹¹ Ibid.
²⁴¹² Kunāla (No. 526); Viśwantara (No. 547).
²⁴¹³ Viśwantara (No. 547); cf. Piyangu in Kunāla Jātaka (No. 536).
²⁴¹⁴ Viśwantara Jātaka (No. 547).
²⁴¹⁵ Ibid.
²⁴¹⁶ Ibid.
²⁴¹⁷ Ibid.
²⁴¹⁸ Ibid.
²⁴¹⁹ Ibid.
²⁴²⁰ Ibid.
²⁴²¹ Ibid.
²⁴²² Ibid.
²⁴²³ Ibid.
²⁴²⁴ Ibid.
²⁴²⁵ Ibid.; Sudhābhojana (No. 535).
²⁴²⁶ Viśwantara Jātaka (No. 547).

- ²⁴²⁷ Ibid.
²⁴²⁸ Ibid.
²⁴²⁹ Ibid.: Kunāla Jātaka (No. 536); Sudhābhojana Jātaka (535).
²⁴³⁰ Jarudapāna Jātaka (No. 256).
²⁴³¹ Ibid.
²⁴³² Ibid.
²⁴³³ Ibid.
²⁴³⁴ Ibid.; Kunāla Jātaka (No. 536).
²⁴³⁵ Ibid.
²⁴³⁶ Kunāla Jātaka (No. 536).
²⁴³⁷ Ibid.
²⁴³⁸ Ibid.
²⁴³⁹ Jarudapāna Jātaka (No. 256).
²⁴⁴⁰ Supārāga Jātaka (No. 463).
²⁴⁴¹ Rawlinson — Herodotus, Vol. 11, p. 487.

dotus "there is abundance of gold in India partly brought down by the rivers and partly seized in the manner I have described."²⁴⁴² The last words refer to his famous story of the gold-digging ants which is repeated by subsequent writers like Pliny, Ælian, Chrysostom and even by more trustworthy writers like Megasthenes and Nearchos. The real origin of the theory of ant-gold was first explained by Dr. Wilson who pointed out that the Sanskrit name for small fragments of alluvial gold (gold dust) was paipalaka (= ant-gold) in reference to their resemblance to ants in size and form. The Greeks accepted a too literal meaning of the word and supposed that gold was dug out by ants. When Herodotus says that the ants were of the size of dogs and fiercely attacked anyone carrying off the gold, it has been plausibly suggested that the account was derived from people who had been chased by the formidable dogs kept by the native miners.²⁴⁴³ The further addition of the myth referred to by Pliny who says that "the horns of the gold-digging ants were preserved in the temple of Hercules at Erythral" has been explained by Professor V. Ball, Sir H. Rawlinson and Dr. Schiærn. The explanation may be thus given in Professor Ball's words : "The so-called myth was not cleared up till by chance, information was received as to the customs and habits of the Tibetan gold-miners of the present day. The myrmeces of Herodotus and Megasthenes were Tibetan miners and their dogs. The horns mentioned by Pliny were the gold-miner's pick-axes. I have been informed by an eye-witness, Mr. R. Lydekker that the picks in use in Larlak consist of horns of wild sheep mounted on handles."²⁴⁴⁴ Megasthenes has added the useful information that the country from which gold came was the country of the Derdae (in Sanskrit Darada or Darād = modern Dardisthan in Kashmere).²⁴⁴⁵

It is interesting to note in this connection that from very early times mines appear to have been regarded as state property. According to Gautama all treasure-trove belongs to the king, but an exception in case of the

²⁴⁴² McCrindle's Classical Literature, Herodotus.

²⁴⁴³ McCrindle's Ancient India, p. 44, note 2.

²⁴⁴⁴ Prof. V. Ball—A geologist's con-

tribution to the history of Ancient India in the Indian Antiquary, 1884.

²⁴⁴⁵ Megasthenes, Fragment 29—Strabo XV. C. 706.

treasure-trove is made when a preist is the finder and some say that anybody who finds it gets one-sixth.²⁴⁴⁶

Cattle-rearing, pig-culture and poultry-farming :—Cattle formed an important item of wealth of the ordinary householder even in this period. Oxen were indispensable for agricultural work and apart from sacrificial use milk formed the principal drink of the people besides being the source of supply for curds, whey, butter and ghee. From the Suttanipāṭa we learn that a Brahmin cultivator Kāśi Bharadvāja by name had five ploughs and the requisite number of oxen in addition to a large herd of cows. In the Dhaniyasutta a cultivator speaks of his wealth in cattle and is proud of his milch cows. The herds of cattle²⁴⁴⁷ and goats²⁴⁴⁸ were customarily entrusted to a communal herdsman who would bring them back every evening and count them out to the several owners.²⁴⁴⁹

From the Munika²⁴⁵⁰ and Śalūka²⁴⁵¹ Jātakas we find that pigs were domesticated and fattened before being eaten up.

The Vartaka Jātaka²⁴⁵² refers to a hunter who earned his livelihood by catching quails, fattening them in his house for some time and then selling them to his customers.

Hunting and fishing—A large number of people earned their living by hunting birds and beasts. We read of hunters going to the market with cart-loads of flesh to sell.²⁴⁵³ For capturing deer people used to dig up pits, place snares, fix up stakes and pāṣāṇa-yanta.²⁴⁵⁴ After the beaters had done their work deer were hunted either from a māchan on a tree²⁴⁵⁵ or from a thatch constructed for the purpose.²⁴⁵⁶ We

²⁴⁴⁶ Gautami, X. 25 f.

²⁴⁴⁷ Jātaka III. 149.

²⁴⁴⁸ Ibid., III. 409.

²⁴⁴⁹ A. I. 205 ; M. Dhp. comm. I. 157.

²⁴⁵⁰ No. 30.

²⁴⁵¹ No. 286.

²⁴⁵² No. 118.

²⁴⁵³ Māṇsa Jātaka (No. 315).

²⁴⁵⁴ Lakṣaṇa Jātaka (No. 11.).

²⁴⁵⁵ Kurangamiga Jātaka (No. 21)

²⁴⁵⁶ Manoja (No. 397). For catching deer net of leather-made straps made bright with lac were used [Nyagrodhamiga (No. 12) and Suvarṇamiga Jātaka (No. 359)].

read of birds²⁴⁵⁷ and peacocks²⁴⁵⁸ being caught in traps made of wool²⁴⁵⁹ or of the hair of horse's tail²⁴⁶⁰ with the help of decoy birds.²⁴⁶¹ Lions were hunted from an 'aṭṭaka' (tower or māchan) specially constructed for the purpose.²⁴⁶² The method of capturing elephants described in the *śaḍadanta Jātaka*²⁴⁶³ is substantially the same described by Megasthenes,²⁴⁶⁴ the precursor of the modern 'Khedā' system.

Fishing became the main occupation of a section of the population. We read of fish being caught from rivers and tanks in nets²⁴⁶⁵ or in a cage-like structure of cane or bamboo-splints called *kumina*.²⁴⁶⁶ Of fish a large variety was known. We find mention of :—(1) *Rohita* (= Bengali *Rui*)²⁴⁶⁷ (2) *Pāgusa* (= Sanskrit *Vāgusa* = Bengali *Vāyuṣa* i.e., *Kālavāyuṣa*)²⁴⁶⁸ (3) *Pāṭhina* (= Bengali *Voyāla*)²⁴⁶⁹ (4) *Śākula* (= Bengali *Śol*)²⁴⁷⁰ (5) *Sringī* (= Bengali *śingī*)²⁴⁷¹ (6) *Vāluka* (= Bengali *Veḷe* ?)²⁴⁷² (7) *Pāvusa* (= Bengali *Kālavāyuṣa* ?)²⁴⁷³ (8) *Muñja* (= Bengali *Miragela* ?)²⁴⁷⁴ (9) *Kākiṇṇa* (= Bengali *Kānkley* ?)²⁴⁷⁵ (10) *Kṣhuramāla* (= a seafish with razor-like nose = sword-fish ?)²⁴⁷⁶ (11) *Aligargara*²⁴⁷⁷ (12) *Savakra*²⁴⁷⁸ (13) *Kākamatsya*²⁴⁷⁹ and (14) *Śatavakra*.²⁴⁸⁰ Tortoises²⁴⁸¹ corals²⁴⁸² and pearls²⁴⁸³ are also mentioned.

- ²⁴⁵⁷ *Kakkara Jātaka* (No. 209).
²⁴⁵⁸ *Mayūra Jātaka* (No. 159).
²⁴⁵⁹ *Kakkara Jātaka* (No. 209).
²⁴⁶⁰ *Śālikedāra Jātaka* (No. 464).
²⁴⁶¹ *Kakkara* (No. 209); *Mayūra* (No. 159); *Tittira* (No. 317).
²⁴⁶² *Manoja Jātaka* (No. 397).
²⁴⁶³ No. 514.
²⁴⁶⁴ *Frag.* 36 = *Strabo*, XV. 1. 41-43, pp. 704-05; *Frag.* 37 = *Arrian-Indica*, XIII—XIV.
²⁴⁶⁵ *Matsya Jātaka* (No. 34).
²⁴⁶⁶ = Bengali *ghoṇā* or *ghūṇi*—*Haritamāta* (= *Haritamanduka*) *Jātaka* No. 239.
²⁴⁶⁷ *Chakravāka* (No. 451); *Sudhābhojana* (No. 535); *Vidurapāṇḍita* (No. 545); *Viśwantara* (No. 547).
²⁴⁶⁸ *Vidurapāṇḍita Jātaka* (No. 545).

- ²⁴⁶⁹ *Chakravāka Jātaka* (No. 451); *Sudhābhojana* (No. 535); *Vidurapāṇḍita* (No. 545); *Mahāunmārga* (No. 546).
²⁴⁷⁰ *Sudhābhojana Jātaka* (No. 535).
²⁴⁷¹ *Ibid.*
²⁴⁷² *Chakravāka Jātaka* (No. 451).
²⁴⁷³ *Ibid.*
²⁴⁷⁴ *Ibid.*
²⁴⁷⁵ *Sudhābhojana Jātaka* (No. 535).
²⁴⁷⁶ *Supārāga Jātaka* (No. 463).
²⁴⁷⁷ *Sudhābhojana Jātaka* (No. 535).
²⁴⁷⁸ *Ibid.*
²⁴⁷⁹ *Ibid.*
²⁴⁸⁰ *Ibid.*
²⁴⁸¹ *Mahotkrośa* (No. 486); *Pāraskara Gṛhyasūtra*, I. 14. 5.
²⁴⁸² *Supārāga Jātaka* (No. 463).
²⁴⁸³ *Anavirati Jātaka* (No. 185); *Jarudapāna Jātaka* (No. 256).

Arboriculture :—It seems that when a cluster of villages was turned into a city, the intervening space between any two villages was trimmed with spacious parks. We find frequent mention of such parks in the Jātakas. In the Jetavana of Śrāvastī we find arbours (mālaka) of Nāga (= Nāgakeśara), Śāla, and other trees specially planted for the purpose.²⁴⁸⁴ A gardener (udyānapāla) was appointed to see that the trees are properly watered with the help of buckets made of leather or wood.²⁴⁸⁵ The Sāṅkhyāna Grhyasūtra²⁴⁸⁶ also lays down rules for the consecration ceremony of a garden.

Progress in arts and crafts :—In early times mechanics and craftsmen earned their living by serving the villagers. The Sūtra “Grāmaḥ Śilpini” in Pāṇini²⁴⁸⁷ clearly points to such craftsmen attached to the village. Another sūtra mentions such a village carpenter: “Grāmakautābhyām ca takṣaṇa.”²⁴⁸⁸ But dependence on the village compelled the craftsmen to subsist on the occasional doles and remunerations granted by the villagers according to their whims. To remedy this state of affairs, they had begun in the previous periods to organise themselves into guilds which gave them protection against oppression and helped them in making their economic condition better. When the growth of towns and town-life coupled with the development of domestic and foreign trade led to a greater demand for their products the craftsmen began to free themselves from the tutelage of the agricultural interest by withdrawing to those places where they had better opportunities of pursuing their own occupations, thus leading to the establishment of suburban industrial villages. This separation of the industrial element of the population is a notable feature of the economic life of this period, for, it is at once the effect and the cause of the remarkable growth of industry.

It is curious that the Greek observers should call the Indians backward in the scientific development of the resources of their country. They had, for instance, good mines of gold and silver, yet “The Indians

²⁴⁸⁴ Varuṇa Jātaka (No. 71).

²⁴⁸⁷ VI. 2. 62.

²⁴⁸⁵ Ārāmadūṣaka Jātaka (No. 46).

²⁴⁸⁸ V. 4. 95.

²⁴⁸⁶ V. 3. 1-5.

inexperienced in the arts of mining and smelting do not even know their own resources but set about the business in too primitive a way.”²⁴⁸⁹ They did not pursue accurate knowledge in any line except Medicine; in the case of some arts it was even accounted vicious to carry their study far, the art of war, for instance.²⁴⁹⁰ But the construction and contents of the Piprawa Stupa belonging to 450 B. C., discovered on the Nepal frontier prove that among Indian craftsmen of 450 B. C. there were skilled masons, accomplished stone-cutters and dainty jewellers. “The masonry of the stupa is excellent of its kind, well and truly laid; the great sand-stone coffer could not be better made; and the ornaments of gold, silver, coral, crystal and precious stones which were deposited in honour of the holy relics display a high degree of skill in the arts of the lapidary and goldsmith.” An examination of the crystal bowl and the steatite vases accompanying it shows that they are all turned on the lathe and we thus learn that the Indian lapidaries were familiar with the use of the lathe²⁴⁹¹ in or about 450 B. C.” Equally evident is the skill of the ancient Indian craftsmen in “shaping, polishing and piercing gems of extreme hardness as well as the extensive use of jewellery of an elaborate kind.”

(1) *Metal industry* : In fact, the metal industry was highly specialised. The word ‘kammāra’ mentioned in the earliest Buddhist literature is as comprehensive as our ‘smith.’ We find mention of weapons, tools and implements, household utensils and ornaments of various kinds. The manufacture of arrows is described in the Mahājanaka Jātaka²⁴⁹² and Herodotus²⁴⁹³ describes the Indian army in the service of the Persian King Xerxes as armed with iron-headed arrows. Sword,²⁴⁹⁴ adjustable sword,²⁴⁹⁵ spear,²⁴⁹⁶ armour,²⁴⁹⁷ and iron helmet²⁴⁹⁸ are also mentioned.

²⁴⁸⁹ Strabo XV. C. 700.

²⁴⁹⁰ Strabo XV. C. 701.

²⁴⁹¹ Imperial Gazeteer, Vol. II.

²⁴⁹² No. 539.

²⁴⁹³ VII. 65 (= Herodotus translated by Cary. London, 1848. p. 434.

²⁴⁹⁴ Bhojājāneya Jātaka (No. 23) : Mahā-silavaja (No. 51) ; Khandahāla (No. 542) ; Sāṅkhyāyana Gṛhyasūtra, I. 13. 1.

²⁴⁹⁵ Asadṛṣa Jātaka (No. 181).

²⁴⁹⁶ Sūchī Jātaka (No. 387) ; Pāraskara Gṛhyasūtra, II. 6. 16.

²⁴⁹⁷ Bhojājāneya Jātaka (No. 23) ; Sarabhanga (No. 522) ; Mahāunmārga (No. 546) ; Āśwālāyana Gṛhyasūtra III. 12. 1, 2.

²⁴⁹⁸ Mahāunmārga Jātaka (No. 546).

A small sword called illi²⁴⁹⁹ and a sword of high quality called sikāya-samayā²⁵⁰⁰ were also known. Daśārṇaka was famous for the high quality of her swords.²⁵⁰¹

Among tools and implements we find (1) paraśu (axe),²⁵⁰² (2) vāsī (adze),²⁵⁰³ (3) vāsiparaśu, a combination of the carpenter's adze and axe,²⁵⁰⁴ (4) keen-edged saw (Pāli Krakacha),²⁵⁰⁵ (5) bill-hook,²⁵⁰⁶ (6) hammer,²⁵⁰⁷ (7) fishing hook made of iron,²⁵⁰⁸ (8) iron goad (Pāli pāchana = Sans. prājana),²⁵⁰⁹ (9) crowbar (tomara, khanitra),²⁵¹⁰ (10) spade,²⁵¹¹ (11) grass-cutter's knife,²⁵¹² (12) auger (nikhādana),²⁵¹³ and (13) siṅghātaka (an instrument having three pointed corners like a singārā, an aquatic nut)²⁵¹⁴

Among domestic utensils we find (1) iron vessels,²⁵¹⁵ (2) iron jar (kumbhī),²⁵¹⁶ (3) bucket (Pāli udañchani = Sans. udañchana),²⁵¹⁷ (4) colander, a vessel with many holes (Pāli parisāvana karoṭi),²⁵¹⁸ (5) fork (sandamśa)²⁵¹⁹ and (6) iron rods used in roasting meat.²⁵²⁰ Razor made of metal,²⁵²¹ fine needles with case,²⁵²² key (Pāli avāpuraṇa =

²⁴⁹⁹ Ścra (No. 529); Mahājanaka (No. 539).

²⁵⁰⁰ Mahāunmārga Jātaka (No. 543).

²⁵⁰¹ Daśārṇaka Jātaka (No. 401).

²⁵⁰² Tailapātra Jātaka (No. 96); Dadhivāhana (No. 186); Sūchi (No. 387); Pāraskara Gṛhyasūtra, I. 16. 18; III. 15. 21; Āśwālāyana Gṛhyasūtra, I. 15. 3; Sāṅkhyāyana Gṛhyasūtra, I. 28. 14.

²⁵⁰³ Sūchi Jātaka (No. 387); ṣaḍadanta Jātaka (No. 514).

²⁵⁰⁴ Dadhivāhana Jātaka (No. 186).

²⁵⁰⁵ Śilavannāga Jātaka (No. 72); Asitābhu (No. 234); Kṛṣṇadvai-pāyana (No. 444).

²⁵⁰⁶ Vaka Jātaka (No. 38).

²⁵⁰⁷ Vannupatha (No. 2); Mahāpingala (No. 240); ṣaḍadanta (No. 514).

Sūchi Jātaka (No. 387).

²⁵⁰⁹ Sūchi Jātaka (No. 387).

²⁵¹⁰ Durvalakāṣṭha Jātaka (No. 105); ṣaḍadanta (No. 514).

Vannupatha (No. 2); Nanda (No. 39); Mṛdulakṣaṇa (No. 66); Kuddāla (No. 70); ṣaḍadanta (No. 514).

Viśahya Jātaka (No. 340); ṣaḍadanta (No. 514).

²⁵¹³ ṣaḍadanta Jātaka (No. 514).

²⁵¹⁴ Ibid.

²⁵¹⁵ Udaya Jātaka (No. 458).

²⁵¹⁶ Louhakuṃvī Jātaka (No. 314).

²⁵¹⁷ Udañchani Jātaka (No. 106).

²⁵¹⁸ Kapota Jātaka (No. 42).

²⁵¹⁹ Karkaṭa Jātaka (No. 267).

²⁵²⁰ Śaśa Jātaka (No. 316).

²⁵²¹ Khadira Gṛhyasūtra, II. 3. 27.

²⁵²² Sūchi Jātaka (No. 387).

Sans. avāvaraṇa)²⁵²³ and seal (lāñchchhana-mudrā)²⁵²⁴ are also mentioned. Iron nets²⁵²⁵ iron fetters²⁵²⁶ (andu) and iron chains for prisoners²⁵²⁷ were also in use.

Copper implements²⁵²⁸ are frequently mentioned. Copper razor²⁵²⁹ and copper vessels²⁵³⁰ including tātā used in religious worship being the most important.

Among silver wares we find (1) silver vessels²⁵³¹ (2) silver pot for milching cows²⁵³² (3) hare made of silver²⁵³³ and (4) silver boxes for keeping ornaments.²⁵³⁴

Of alloys kamsa (bell-metal) is mentioned in Pīṇini.²⁵³⁵ The Jātakas refer to (1) bell-metal vessels²⁵³⁶ including (2) kāmśya sthālī²⁵³⁷; and kāsara, (a plate of bell-metal struck with a stick serving the purpose of a bell).²⁵³⁸ Among articles made of brass (pittala) we find (1) brazen vessels,²⁵³⁹ (2) bowls²⁵⁴⁰ and (3) hare made of brass.²⁵⁴¹

The goldsmith is frequently mentioned and among articles of gold we find (1) gold vessels²⁵⁴² (2) gold pitcher²⁵⁴³ (3) gold sthālī²⁵⁴⁴ (4) gold drinking pot²⁵⁴⁵ (5) gold vase (bhrṅgara)²⁵⁴⁶ (6) gold plate

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| ²⁵²³ Śṛgāla Jātaka (No. 148). | Khulladhanurgraha Jātaka (No. 374); Sūchī Jātaka (No. 387). |
| ²⁵²⁴ Kalingavodhi Jātaka (No. 479). | |
| ²⁵²⁵ Abhyantara Jātaka (No. 281);
Bhadraśāla Jātaka (No. 464) | ²⁵³⁸ Lośaka Jātaka (No. 41). |
| ²⁵²⁶ Vandhanāgāra Jātaka (No. 201). | ²⁵³⁹ Khadirāṅgāra Jātaka (No. 40);
Khadira Gṛhyasūtra, II. 5. 33;
III. 4. 18; III. 4. 20; III. 4. 23;
III. 5. 12; Pāraskara, III. 4. 9. |
| ²⁵²⁷ Ibid. | |
| ²⁵²⁸ Āśwālāyana Gṛhyasūtra, IV. 3. 19; | ²⁵⁴⁰ Khadira Gṛhyasūtra, I. 5. 11. |
| ²⁵²⁹ Sāṅkhyāyana Gṛhyasūtra, I. 28. 7;
I. 28. 14; Pāraskara Gṛhyasūtra,
II. 1. 11, 19, 21; Āśwālāyana
Gṛhyasūtra, I. 17. 9, 10, 16. | ²⁵⁴¹ Ghaṭa Jātaka (No. 454). |
| ²⁵³⁰ Kouseyī Jātaka (No. 130). | ²⁵⁴² Kāka (No. 140); Dyūta (No. 240);
Udaya (No. 458); Mātanga
(No. 497); Mahāśvāroha (No. 302);
Āśwālāyana Gṛhyasūtra, I. 15. 1.
Sāṅkhyāyana Gṛhyasūtra, I. 24. 3. |
| ²⁵³¹ Udaya Jātaka (No. 458). | |
| ²⁵³² Viśwantara Jātaka (No. 547). | ²⁵⁴³ Mātanga Jātaka (No. 497). |
| ²⁵³³ Ghaṭa Jātaka (No. 454). | ²⁵⁴⁴ Kuṇḍaka-Kukṣi-saindhava (No. 254). |
| ²⁵³⁴ Vātamṛga Jātaka (No. 14). | ²⁵⁴⁵ Mahāśilavaja Jātaka (No. 51). |
| ²⁵³⁵ IV. 3. 168; IV. 5. 183. | ²⁵⁴⁶ Ibid.; Mahāśvāroha (No. 302). |
| ²⁵³⁶ Mahāsvapna Jātaka (No. 77). | |

(suvanna taṭṭaka)²⁵⁴⁷ (7) gold plate worth one lac pieces²⁵⁴⁸ (8) golden basket (changotaka)²⁵⁴⁹ (9) gold spoon²⁵⁵⁰ (10) an instrument of gold used in giving honey and clarified butter to the new-born child in the Medhājanana (production of intelligence) ceremony²⁵⁵¹ (11) a small pair of pincers made of gold²⁵⁵² (12) golden stick²⁵⁵³ (13) golden dice-board²⁵⁵⁴ (14) golden dice²⁵⁵⁵ (15) golden sandals²⁵⁵⁶ (16) golden trappings for horses²⁵⁵⁷ (17) golden cage²⁵⁵⁸ (18) golden cup for a bird²⁵⁵⁹ (19) golden bedstead²⁵⁶⁰ (20) golden seat (Pali kochedha)²⁵⁶¹ (21) golden image of a girl²⁵⁶² (22) hare made of gold²⁵⁶³ (23) elephant made of gold²⁵⁶⁴ and (24) gold box for keeping scents.²⁵⁶⁵

The jeweller (maṇikāra)²⁵⁶⁶ and ornaments²⁵⁶⁷ specially those made of gold²⁵⁶⁸ are frequently mentioned. Among the ornaments of this period we find (1) kirita, tiara for the head.²⁵⁶⁹ A seth's daughter Viśākhā by name obtained from her father as part of her marriage-dowry a peacock-shaped tiara for her head. It was so nicely set up with pearls and gems of different colours that it looked as a real peacock and used to emit a cackling noise with the movement of wind; (2) mukhaphulla.²⁵⁷⁰ According to the commentator it is "nalāṭante tilakamālābharaṇam"

²⁵⁴⁷ Sujāta Jātaka (No. 304).

²⁵⁴⁸ Serivapij Jātaka (No. 3); Bhojājāneya (No. 23); Mahāsvapna (No. 77); Asadrśa (No. 181); Kāmanita (No. 228); Manoja (No. 397); Tūṣa (No. 338).

²⁵⁴⁹ Ruru Jātaka (No. 482).

²⁵⁵⁰ Āśvālāyana Gṛhyasūtra, I. 15. 1; Sāṅkhyāyana Gṛhyasūtra, I. 24. 3.

²⁵⁵¹ Pāraskara Gṛhyasūtra, I. 5. 4.

²⁵⁵² Makhādeva Jātaka (No. 9).

²⁵⁵³ Mātanga Jātaka (No. 497).

²⁵⁵⁴ Andhabhūta Jātaka (No. 62).

²⁵⁵⁵ Ibid.

²⁵⁵⁶ Manoja (No. 397); Mātanga (No. 497).

²⁵⁵⁷ Khaṇḍahāla Jātaka (No. 542).

²⁵⁵⁸ Satyaṅkila (No. 73); Kālavāhu (No. 329); Bāveru (No. 339)

²⁵⁵⁹ Kālavāhu Jātaka (No. 329).

Dyūta Jātaka (No. 260).

Mahāhamsa Jātaka (No. 534).

²⁵⁶² Ananusochaniya Jātaka (No. 328); Kuśa (No. 531).

²⁵⁶³ Ghaṭa Jātaka (No. 454).

²⁵⁶⁴ Mūkapanga Jātaka (No. 538).

²⁵⁶⁵ Mahāśīlavaj Jātaka (No. 51).

²⁵⁶⁶ Kunāla Jātaka (No. 536); Vidurapandita (No. 545).

²⁵⁶⁷ Āśvālāyana Gṛhyasūtra, I. 6. 1, 2; I. 8. 10; Pāraskara Gṛhyasūtra, I. 8. 9; Khadira Gṛhyasūtra, II. 4. 7; II. 5. 9; III. 1. 24.

²⁵⁶⁸ Khadira Gṛhyasūtra, II. 5. 33; Sāṅkhyāyana Gṛhyasūtra, I. 22. 17; III. 1. 7.

Kimchhando Jātaka (No. 511).

²⁵⁷⁰ Viśwantara Jātaka (No. 547).

(something like our *sīnhi*) ; (3) *kuṇḍala*, earring ;²⁵⁷¹ (4) earring set with stones ;²⁵⁷² (5) earring set with jewels ;²⁵⁷³ (6) necklace ;²⁵⁷⁴ (7) necklace of *niṣka* coins ;²⁵⁷⁵ (8) golden necklace worth 1000 pieces ;²⁵⁷⁶ (9) *ratnadāma*, a necklace of gems ;²⁵⁷⁷ (10) *ratnamaya graiveya*, an ornament for the neck set with jewels ;²⁵⁷⁸ (11) *kṣhauma*,²⁵⁷⁹ According to the commentator it is an ornament for the neck ; (12) wreath of gold ;²⁵⁸⁰ (13) *unnata*, nose-ring (?) ;²⁵⁸¹ (14) ring for the finger of the hand ;²⁵⁸² (15) *keyūra*,²⁵⁸³ bracelet on the upper arm ; (16) *angada*,²⁵⁸⁴ bracelet on the upper arm ; (17) golden comb ;²⁵⁸⁵ (18) *valaya*,²⁵⁸⁶ bracelet on the lower arm ; (19) golden bangles set with pearls and precious stones ;²⁵⁸⁷ (20) *mekhalā*,²⁵⁸⁸ an ornament for the loins ; (21) *gingamaka*,²⁵⁸⁹ an ornament for the waist ; (22) *pālīpāda*,²⁵⁹⁰ an ornament for the feet ; (23) golden *kinkīṇī*,²⁵⁹¹ a girdle of small golden bells worn on the legs and (24) *udghaṭṭana*,²⁵⁹² an ornament for the legs.

(2) *Weaving*—In the *Mūkapanga Jātaka*²⁵⁹³ there is a nice simile from weaving. Life has been compared to a piece of cloth, Death to the weaver and Night to the woof. The weaver will place the warp first and as he places the woof, there will be less of the cloth to be woven ; so also

²⁵⁷¹ *Khaṇḍahāla Jātaka* (No. 542) ;
Bhūridatta (No. 543) ; *Āśvālāyana*
Gṛhyasūtra, III. 8. 1 ; *Pāraskara*
Gṛhyasūtra, II. 6. 26 ; *Sāṅkhyāyana*
Gṛhyasūtra, III. 1. 18.

²⁵⁷² *Nānāchhando Jātaka* (No. 289) ;
Rohantamīga (No. 501).

²⁵⁷³ *Maṇikuṇḍala Jātaka* (No. 351) ;
Chāmpeya (No. 506) ; *Nalinikā*
(No. 526) ; *Unmādayantī* (No. 527).

²⁵⁷⁴ *Nalinikā Jātaka* (No. 526).

²⁵⁷⁵ *Kuśa Jātaka* (No. 531).

²⁵⁷⁶ *Kurudharma Jātaka* (No. 276).

²⁵⁷⁷ *Apappaka Jātaka* (No. 1).

²⁵⁷⁸ *Viśwantara Jātaka* (No. 547).

²⁵⁷⁹ *Ibid.*

²⁵⁸⁰ *Khadira Gṛhyasūtra*, III. 1. 43.

²⁵⁸¹ *Viśwantara Jātaka* (No. 547).

Kāṣṭhahārī (No. 7) ; *Pūrṇapātri*
(No. 53) ; *Parantapa* (No. 416).

Mātṛpoṣaka Jātaka (No. 454) ;
Chāmpeya (No. 506) ; *Kiṇchhando*
(No. 511) ; *Khaṇḍahāla* (No. 542) ;
Viśwantara (No. 547).

²⁵⁸⁴ *Kiṇchhando Jātaka* (No. 511) ;
Viśwantara (No. 547).

²⁵⁸⁵ *Alamvuṣā Jātaka* (No. 523).

²⁵⁸⁶ *Mahājanaka Jātaka* (No. 539).

²⁵⁸⁷ *Khaṇḍahāla Jātaka* (No. 542).

²⁵⁸⁸ *Nalinikā* (No. 526) ; *Kuśa* (No. 531) ;
Viśwantara (No. 547) ; cf. *mekhalā*
in *Viśwantara* (No. 547).

²⁵⁸⁹ *Viśwantara Jātaka* (No. 547).

²⁵⁹⁰ *Ibid.*

²⁵⁹¹ *Rohantamīga Jātaka* (No. 501).

²⁵⁹² *Viśwantara Jātaka* (No. 547).

²⁵⁹³ No. 538.

with the passing of successive nights there will be less number of years for a man to live. Besides the wool of sheep and goat silk, linen and cotton formed the materials for weaving.

(a) *Cotton* : From the Chullavagga we learn that the Buddha allowed the bhikkhus "to comb out the cotton, and make the cotton up into pillows if it be of any of these three kinds—cotton produced on trees, cotton produced on creepers and cotton produced from potaki-grass."²⁵⁹⁴ In the Patimokkha we find weavers being employed to weave cloth for monks. The Jātakas also refer to chivara (dress of the Buddhist monks) being made by the monks themselves.²⁵⁹⁵ The chivara consisted of (1) antaravāsaka, a small piece of cloth like a 'lungi'²⁵⁹⁶ (2) uttarāsanga which covers up the whole body from the shoulders²⁵⁹⁷ and (3) saṃghāti, an upper garment which covers up the whole body from the shoulders and used only when stirring out of the monastery.²⁵⁹⁸ A kāyavandhana, belt made of cloth, was also used by all the monks.²⁵⁹⁹ The ordinary lay householder used to wear (1) nivāsana, undergarment²⁶⁰⁰ or sātaka²⁶⁰¹ and (2) prāvaraṇa, upper garment.²⁶⁰² Uṣṇiṣa, headdress²⁶⁰³ and kañchuka, an overcoat resembling very much a dressing gown²⁶⁰⁴ were worn by the nobility. We also find mention of (1) coverlet²⁶⁰⁵ (2) coverlet for elephant inlaid with gold²⁶⁰⁶ (3) coverlet for royal chariot with designs on it²⁶⁰⁷ (4) multi-coloured coverlet for beddings²⁶⁰⁸ (5) bathing cloth²⁶⁰⁹ (6) cloth embroidered with gold²⁶¹⁰ (7) costly gandha-kāṣāya

²⁵⁹⁴ Chullavagga, VI. 2. 6 ; See also IV. 44 and VIII. 1. 3.

Chullakāśreṣṭhi Jātaka (No. 4) ;
Vaka (No. 38) ; Varuṇa (No. 71) ;
Khullavodhi (No. 443).

²⁵⁹⁶ Samṛddhi Jātaka (No. 167).

²⁵⁹⁷ Ibid.

²⁵⁹⁸ Asadrśa Jātaka (No. 181).

²⁵⁹⁹ Chullakāśreṣṭhi (No. 4) ; Matsya (No. 75).

²⁶⁰⁰ Guṇa Jātaka (No. 197).

²⁶⁰¹ Mṛdulakṣapa (No. 66) ; Mangala (No. 87) ; Alinachitta (No. 156) ;

Kuṇḍaka-kukṣi-saindhava (No. 254).

Guṇa Jātaka (No. 197).

Soṇananda (No. 532) ; Bhūridatta (No. 543).

Asadrśa (No. 181) ; Śarabhaṅga (No. 522).

Apapaṇḍita Jātaka (No. 1).

Śivi (No. 499) ; Śoṇa (No. 529).

Chitrasambhūta Jātaka (No. 498).

²⁶⁰⁸ Tailapātra Jātaka (No. 96).

²⁶⁰⁹ Maṭṭya Jātaka (No. 75).

Kuśa Jātaka (No. 531).

sātaka, cloth dyed red and probably perfumed with aguru or musk²⁶¹¹ (8) puṣpapata, cloth with flowers embroidered on it²⁶¹² (9) handkerchief (eholaka)²⁶¹³ (10) canopy decorated with golden stars²⁶¹⁴ (11) screen²⁶¹⁵ (12) purse (sthavikā)²⁶¹⁶ (13) kanthā²⁶¹⁷ (14) seats made of cloth²⁶¹⁸ (15) pādapuñchhanam²⁶¹⁹ (16) and pillows.²⁶²⁰ The Chullavagga²⁶²¹ refers to bolsters which were made for the use of high officials and were of five kinds according as they were stuffed with wool, cotton-cloth, bark, grass or leaves. The floor-cloth, mosquito-curtain and sundry other articles are also mentioned.²⁶²²

We read of an extensive field near Benares where cotton was cultivated²⁶²³ and of a weavers' ward in the city itself.²⁶²⁴ The Therīgāthā and the Jātakas²⁶²⁵ frequently refer to the cotton-cloth of Benares some of which were so fine in texture that they fetched a thousand pieces²⁶²⁶ or even a lac.²⁶²⁷ The Mahāvagga²⁶²⁸ and the Śivi Jātakas²⁶²⁹ refer to the high quality of the cloth of the Śivi country.

(b) *Linen* : Cloth woven with the thread of śaṇa was called śāṇī. Screens were usually made of such linen cloth and were also called śāṇī.²⁶³⁰

²⁶¹¹ Kāśāya Jātaka (No. 221).

²⁶¹² Chandrakinnara (No. 485).

²⁶¹³ Chullavagga, VI. 19 ; V. 9. 4.

²⁶¹⁴ Bhojājāneya Jātaka (No. 23) ;
Tailapātra (No. 96) ; Kuṇḍaka-
kukṣi-saindhava (No. 254).

²⁶¹⁵ Kuṇḍaka-kukṣi-saindhava (No. 254).

²⁶¹⁶ Susīma Jātaka (No. 163) ; Kuṇḍaka-
kukṣi-saindhava (No. 254) ; Tri-
śakuna (No. 521).

²⁶¹⁷ Pāṇini, II. 4. 20 ; IV. 2. 142-43.

²⁶¹⁸ Guṇa Jātaka (No. 157).

²⁶¹⁹ Ibid.

²⁶²⁰ Mahāśīlavaj Jātaka (No. 5).

²⁶²¹ VI. 27. 1.

²⁶²² Ibid., VI. 20. 1 ; V. 14. 1 ; V. 9. 4 ;
VI. 19 ; Mahāvagga (V. 10. 3)
refers to cotton coverlets dyed with
figures of animals (compare fn.
No. 2607). The Bhūridatta Jātaka

(No. 543) refers to *māsūṛaka*, a
seat covered with 'gadi'.

²⁶²³ Tuṇḍila Jātaka (No. 388).

Bhīmasena Jātaka (No. 8).

Ibid. ; Kāmavilāpa Jātaka (No. 297) ;
Mahāśwāroha (No. 302) ; Madyaka
(No. 390) ; Viśa (No. 458) ; Mahā-
vāṇij (No. 493) ; Śoṇananda
(No. 532) ; Mahāhamsa (No. 534) ;
Khaṇḍahāla (No. 542) ; Mahāun-
mārga (No. 546) ; Viśwantara
(No. 547).

Guṇa Jātaka (No. 157) ; Therīgāthā
Ch. XIV.

Mahāśwāroha Jātaka (No. 302) ;
Mahāunmārga (No. 546).

²⁶²⁸ VIII. 1.

No. 499.

²⁶²⁹ Asadrśa Jātaka (No. 181) ; Kuṇḍaka-
kukṣi-saindhava (No. 254).

We also read of (1) cloth-made bags for storing up grains (bhastā)²⁶³¹ (2) cloth-made bags for keeping shoes²⁶³² (3) tents (maṇḍapa)²⁶³³ and (4) kṣauma, linen cloth.²⁶³⁴ Kautumvara was famous for her cloth²⁶³⁵ specially linen (kṣauma).²⁶³⁶ The Sudhābhojana Jātaka²⁶³⁷ refers to coarse cloth made from the threads spun out of the roots of trees.

(c) *Silk* : Silk-fabrics are mentioned in the Majjhimaśīla and in the Bhikkhu-Pātimokkha (on Eḍakalomavagga). The word kosiyaṃissakam (meaning mixed with silk) shows that mixed silk was also known. Kauṣeya cloths are also referred to in Pāṇini.²⁶³⁸ The Dadhiyāhana Jātaka²⁶³⁹ refers to screens made of silk cloth ; while from the Therīgāthā we learn that the sick fabrics of Benares were highly prized in those days.

(d) *Woolens* : The Mahāvagga²⁶⁴⁰ refers to coverlets with long fleece, counterpanes of many colours, woolen rugs with long hair on one or both sides, carpet inwrought with gold or with silk, large woolen carpets, rich elephant housings, horse-rugs or carriage rugs, large cushions and crimson cushions. In the Jātakas we read not only of blankets²⁶⁴¹ but also of carpets,²⁶⁴² traps made of wool for catching birds,²⁶⁴³ screen made of raktakamvala²⁶⁴⁴ and shoes made of cloth woven with threads of different colours and decorated with gold.²⁶⁴⁵

In the Mahāvāṇij Jātaka²⁶⁴⁶ we have “kuṭṭiyo paṭiyāni cha.” The commentator says “kuṭṭiyo hatthatharādayo paṭiyāni unṇāmaya pachchattharaṇāni setakamvalāni pi vadanti” ; so that woolen shawl or some such

²⁶³¹ Illsa Jātaka (No. 78).

²⁶³² Mitrāmitra Jātaka (No. 197).

²⁶³³ Chullakāśreṣṭhi Jātaka (No. 4) ;
Devadharmā (No. 6) ; Kulāyaka
(No. 31) ; Maśaka (No. 44) ; Śaśa
(No. 316) ; Uddālaka (No. 487).

²⁶³⁴ Alinachitta Jātaka (No. 156).

²⁶³⁵ Mahājanaka Jātaka (No. 539) ;
Viśwantara (No. 547).

²⁶³⁶ Viśwantara Jātaka (No. 547).

²⁶³⁷ No. 535.

²⁶³⁸ IV. 3. 32.

²⁶³⁹ No. 186.

²⁶⁴⁰ V. 10. 3.

²⁶⁴¹ Śilavannāga Jātaka (No. 72) ;
Mahāvāṇij (No. 493).

²⁶⁴² Kuṇḍaka-kukṣi-saindhava (No. 254).
Pāṇini (IV. 2. 12) also refers to
carpets.

²⁶⁴³ Kakkara Jātaka (No. 209).

²⁶⁴⁴ Bhojājāneya Jātaka (No. 23).

²⁶⁴⁵ Bhūridatta Jātaka (No. 543).

²⁶⁴⁶ No. 493.

costly woolen is meant. In the same Jātaka we also have “Uddiyāne cha kamvala.” The commentator says “Uddiyā nama kamvalā atthi.” If uddiya be taken as derived from Sanskrit udra then uddiya will mean made from the fine hair of udbiṇāla. Blankets made of goat’s hair called gonako are mentioned not only in the Majjhimaśīla but also in the Jātakas.²⁶⁴⁷ The Śālikedāra Jātaka²⁶⁴⁸ refers to net made of the hair of horse’s tail for catching birds. Gāndhāra was famous for her blankets²⁶⁴⁹ and some of them were so fine as to fetch a lac pieces.²⁶⁵⁰

(3) *Carpentry* : In addition to the ordinary carpenter who made wooden articles for domestic use, there were skilled workmen employed in building carts (Māṃsa Jātaka No. 315) and chariots²⁶⁵¹ and in building dugouts,²⁶⁵² boats²⁶⁵³ and ships.²⁶⁵⁴ Among wooden articles for domestic use we find (1) paryanka, high class bedstead²⁶⁵⁵ (2) phalakāsana,²⁶⁵⁶ bench (3) śayyāphalaka,²⁶⁵⁷ ordinary wooden bedstead (4) stool²⁶⁵⁸ (5) benches long enough to accommodate three persons²⁶⁵⁹ (6) āsandi²⁶⁶⁰ (7) āsandaka (rectangular chair)²⁶⁶¹ (8) sofa (sattango)²⁶⁶² (9) sofa with arms to it²⁶⁶³ (10) arm-chair²⁶⁶⁴ (11) state chair (bhadda-piṭham)²⁶⁶⁵ (12) cushioned chair

²⁶⁴⁷ Alamvuṣā (No. 523); Mahājanaka (No. 539).

²⁶⁴⁸ No. 484.

²⁶⁴⁹ Viśwantara Jātaka (No. 547).

²⁶⁵⁰ Ibid.

²⁶⁵¹ Spandana (No. 475); Pāraskara Gr̥hyasūtra, I. 8. 18; I. 10. 1-3; III. 14; Sāṅkhyāyana Gr̥hyasūtra, IV. 7. 32; Āśvālāyana Gr̥hyasūtra, II. 6. 1, 9; III. 12. 2; I. 8. 1.

²⁶⁵² Chāṃpeya Jātaka (No. 506).

²⁶⁵³ Samudra-vāṇij Jātaka (No. 465).

²⁶⁵⁴ Śankha Jātaka (No. 442).

²⁶⁵⁵ Devadharma Jātaka (No. 7); Surāpāna (No. 81); Vairi (No. 103); Pañchaguru (No. 132); Grāmaṇi-chanda (No. 257); Maṇikūṇḍala (No. 351); Śivi (No. 499); Alam-

vuṣā (No. 523); cf. *Pallanka* in Chullavagga, VI. 141; VI. 8. 1. etc.; Mahāvagga, V. 10. 3.

Kulāyaka Jātaka (No. 31); Markata (No. 173); Kunāla (No. 536).

Mīḍulakṣana Jātaka (No. 66); Indrasamānagotra (No. 161).

Mahāsvapna (No. 77); Illisa (No. 78). Chullavagga, VI. 13. 2.

²⁶⁶⁰ Ibid., VI. 14. 1; VI. 8. 1 etc.; Mahāvagga, V. 10. 3.

Chullavagga, VI. 2. 4; cf. Chullavagga, VI. 20. 2 and VIII. 1. 3.

²⁶⁶² Ibid.

²⁶⁶³ Ibid.

²⁶⁶⁴ Ibid.

²⁶⁶⁵ Ibid.

(vithika)²⁶⁶⁶ (13) chair raised on a pedestal (elaka-padaka pīṭham)²⁶⁶⁷ (14) chair with many legs (āmalakavaṇṭika-pīṭham)²⁶⁶⁸ (15) cane-bottomed chair (koccham)²⁶⁶⁹ (16) straw-bottomed chair²⁶⁷⁰ (16) litter or sedan-chair²⁶⁷¹ (17) board to lean against (apassena-phalakam)²⁶⁷² (18) wooden plank (phalaka) used as a slate for writing²⁶⁷³ (19) dice-board (akkhasas phalakam)²⁶⁷⁴ (20) wooden pestle and mortar²⁶⁷⁵ (21) wooden spoon²⁶⁷⁶ (22) juhu, spoon²⁶⁷⁷ (23) upabhr̥t, a spoon²⁶⁷⁸ (24) darvi, a spoon²⁶⁷⁹ (25) sruk, a laddle²⁶⁸⁰ (26) sruva, small sacrificial ladle²⁶⁸¹ (27) dhruva, big sacrificial ladle²⁶⁸² (28) agnihotrahavani, the ladle with which Agnihotra oblations were offered²⁶⁸³ (29) a wooden vessel called pātri²⁶⁸⁴ (30) prasitraharaṇa (the vessel into which the portion of the sacrificial food belonging to Brahman is put,²⁶⁸⁵ (31) wooden dish²⁶⁸⁶ (32) wooden sacrificial cup²⁶⁸⁷ (33) droṇa or droṇi, a vessel for measurement²⁶⁸⁸ (34) karīṣa, a vessel for measurement²⁶⁸⁹ (35) amnaṇa, a vessel for measurement²⁶⁹⁰ (36) wooden tubs used in watering plants²⁶⁹¹ (37) wooden yoke for carrying loads (Pāli kājo or kācho)²⁶⁹² and (38) wooden boxes

²⁶⁶⁶ Ibid.

²⁶⁶⁷ Ibid.

²⁶⁶⁸ Ibid.

²⁶⁶⁹ Ibid.

²⁶⁷⁰ Ibid.

²⁶⁷¹ Vātamṛga Jātaka (No. 14) ; Mahāvagga, V. 10. 2.

²⁶⁷² Mahāvagga, I. 25. 15, 16.

²⁶⁷³ Kaṭāhaka Jātaka (No. 125).

²⁶⁷⁴ Alamvuṣā Jātaka (No. 523). The commentator however takes akkha in the sense of gold : akkhasa ti suvaṇṇaphalakam viya visālā. Compare ākarṣa-phalaka in Pāraskara Gṛhyasūtra, II. 10. 17 which according to the commentator Rāma-kṛṣṇa was made of udumvara wood.

²⁶⁷⁵ Nānāchhando Jātaka (No. 289).

²⁶⁷⁶ Kaṭāhaka Jātaka (No. 125) ; Viśvantara (No. 547) ; cf. Āśvālāyana Gṛhyasūtra, II. 1. 2, 9.

²⁶⁷⁷ Āśvālāyana Gṛhyasūtra, IV. 3. 2.

²⁶⁷⁸ Ibid., IV. 3. 3.

²⁶⁷⁹ Khadira Gṛhyasūtra, III. 2. 2 ; Pāraskara Gṛhyasūtra, II. 14. 14, 20, 24.

²⁶⁸⁰ Sāṅkhyāyana Gṛhyasūtra, I. 9. 14.

²⁶⁸¹ Āśvālāyana Gṛhyasūtra, IV. 3. 6 ; Sāṅkhyāyana Gṛhyasūtra, I. 8. 24 ; I. 9. 4 ; I. 9. 13 ; I. 9. 14 ; Pāraskara Gṛhyasūtra, I. 1. 3.

²⁶⁸² Āśvālāyana Gṛhyasūtra, IV. 3. 5.

²⁶⁸³ Ibid., IV. 3. 4.

²⁶⁸⁴ Ibid., IV. 3. 10.

²⁶⁸⁵ Ibid., IV. 3. 8.

²⁶⁸⁶ Ibid., II. 1. 4.

²⁶⁸⁷ Ibid., IV. 3. 11.

²⁶⁸⁸ Āmra Jātaka (No. 124) ; Vikarṇaka (No. 232).

²⁶⁸⁹ Vartaka Jātaka (No. 35).

²⁶⁹⁰ Ibid.

²⁶⁹¹ Ārāmadūṣaka Jātaka (No. 46).

²⁶⁹² Mṛdulakṣaṇa Jātaka (No. 66).

(peṭikā).²⁶⁹³ The manufacture of wooden sandals is described in the Mahājanaka Jātaka²⁶⁹⁴; while razor of udumvara wood,²⁶⁹⁵ sphya (wooden sacrificial sword)²⁶⁹⁶ and wooden shields²⁶⁹⁷ are also mentioned.

In the construction of houses the carpenter obtained the full scope for his skill. The Alinachitta Jātaka²⁶⁹⁸ tells us how the carpenters of a village near Benares would go up the river in a vessel and enter the forest, where they would shape beams and planks for house-building and put together the framework of one storey or two storey houses, numbering all the pieces from the main post onwards; these they then brought down to the river bank and put them all aboard; then rowing down-stream again they would build houses to order, as it was required of them. The palace of the King of Benares mentioned in the Kuśanāli²⁶⁹⁹ and Bhadrāsāla Jātakas²⁷⁰⁰ was a one-pillared one, probably like the famous one-pillared Durbar Hall of Fatepur Sikri, the pillar being made of wood.

(4) *Grass and reed work*—The worker in grass and reeds (nalakāra) made a large variety of articles for daily use among which the more important were (1) mat (kiliñjaka),²⁷⁰¹ (2) basket (pachchhi = kalopi),²⁷⁰²

²⁶⁹³ Mangala (No. 87); Mahāmayūra (No. 491). Box made of sandal-wood is mentioned in Matsya Jātaka (No. 75).

²⁶⁹⁴ No. 539.

²⁶⁹⁵ Khadira Gṛhyasūtra, II. 3. 17, 23, 25.

²⁶⁹⁶ Āśvālāyana Gṛhyasūtra, IV. 3. 4. On the different implements mentioned in the Gṛhyasūtras, compare Prof. Max Muller's paper in Zeitschrift der Deutschen Morgenlandischen Gesellschaft, Vol. IX. pp. VII. seqq.; LXXVIII seqq. On the Prāsitraharana compare Hillebrandt, Neu-und Vollmond-

sopfer, pp. 119 (with note 6), 120 and 131.

²⁶⁹⁷ Svetaketu Jātaka (No. 377).

No. 156.

No. 121.

²⁷⁰⁰ No. 465.

Sukhavihāri (No. 10); Grāmañchapda (No. 257); Javanahamṣa (No. 476); Pāraskara Gṛhyasūtra, I. 5. 2.

Nanda (No. 39); Mṛdulakṣaṇa (No. 66); Illisa (No. 78); Surāpāna (No. 81); Sopa (No. 529); Pāraskara Gṛhyasūtra, II. 14. 11, 20; III. 2. 4; Āśvālāyana Gṛhyasūtra, IV. 3. 15; Khadira Gṛhyasūtra, III. 2. 6.

(3) small basket (changotaka)²⁷⁰³ (4) winnowing basket (Pāli kullaka)²⁷⁰⁴ (5) cage-like structure made of cane or bamboo-splints for catching fish (kumina)²⁷⁰⁵ (6) cage-like structure made of straw for birds to live in²⁷⁰⁶ (7) sandals made of grass²⁷⁰⁷ (8) hand-punkha²⁷⁰⁸ (9) umbrella made of leaves²⁷⁰⁹ (10) string loop (śikya)²⁷¹⁰ (11) a ring made of straw over which coolies keep the load they are to carry on their heads (chumvataka)²⁷¹¹ (12) broom-stick²⁷¹² (13) rope²⁷¹³ (14) flute or pipe (venudaṇḍa).²⁷¹⁴ Receptacles were also made out of the leaves of trees (patrapuṭa).²⁷¹⁵

(5) *Pottery* : This industry was sufficiently developed to admit of localisation in particular places. The Jātakas²⁷¹⁶ repeatedly mention village of potters. According to the Uvāsagadasao²⁷¹⁷ there were 500 potter-shops outside the town of Polāsapura ; apparently these formed a suburban village of potters. Among the vessels of earthenware²⁷¹⁸ we find (1) pitcher²⁷¹⁹ (2) jug²⁷²⁰ (3) jar²⁷²¹ (4) a large water-jar²⁷²² (5) drinking pot²⁷²³ (6) liquor-cup²⁷²⁴ (7) sthālī²⁷²⁵ (8) pot for keep-

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| Illisa Jātaka (78) ; Parnika (No 102) ; Mahāhaṃsa (No 534).
Vardhakisūkara (No. 283) ; Nānā-
chhando (No. 289) ; Mahajanaka
(No. 539) ; Āśvālāyana Gṛhyasūtra,
IV. 5. 7. | ²⁷¹⁵ Puṭadūṣaka Jātaka (No. 28) ;
Matsyadāna (No. 288). |
| ²⁷⁰⁵ Haritamāta Jātaka (No. 238). | ²⁷¹⁶ III. 376 ; III. 503. |
| ²⁷⁰⁶ Kapota (No. 42) ; Lola (No. 274). | ²⁷¹⁷ VII. 181. 184. |
| ²⁷⁰⁷ Daśaratha Jātaka (No 461). | ²⁷¹⁸ Āśvālāyana Gṛhyasūtra, IV. 7. 10. |
| ²⁷⁰⁸ Durvalakāṣṭha Jātaka (No. 105) ;
Śūkara (No. 153). | ²⁷¹⁹ Vātamṛga (No. 14) : Mahāsvapna
(No. 77) ; Indrasamānagotra (No.
161) ; Sāṅkhyāyana Gṛhyasūtra,
I. 13. 5 ; II. 17. 2 ; III. 4. 3 ; IV.
1. 3 ; IV. 3. 4 ; IV. 17. 4 ; Khadira
Gṛhyasūtra, I. 3. 5. |
| ²⁷⁰⁹ Tilamuṣṭhi Jātaka (No. 252) ;
Brahmadatta (No. 323). | ²⁷²⁰ Āśvālāyana Gṛhyasūtra |
| ²⁷¹⁰ Ekarāja Jātaka (No. 303). | ²⁷²¹ Ibid., IV. 6. 4. |
| ²⁷¹¹ Sammodamāna Jātaka (No. 33). | ²⁷²² Mṛdulakṣaṇa J |
| ²⁷¹² Triparyasta Jātaka (No. 16). | ²⁷²³ Ibid. |
| ²⁷¹³ Mahāsvapna (No. 77) ; Khadira
Gṛhyasūtra, III. 1. 52.
Chandrakinnara Jātaka (No. 48.). | ²⁷²⁴ Illisa Jātaka
²⁷²⁵ Mahilāmukhī
dhanurgrah |

ing curds²⁷²⁶ and (9) vat (chāṭi).²⁷²⁷ The skill of the potter was exhibited in the preparation of earthen pots with female figures engraved on them and of earthen dolls for children mentioned in the Kuśa Jātaka.²⁷²⁸ In the Viśwantara Jātaka²⁷²⁹ we are told that some of these dolls were representations of the images of elephants, horses, bulls, śyāma deer, monkey (kadalimrga), hare, owl, peacock, swan and birds like heron etc.

(b) *Leather-work*: The leather was tanned and softened by the application of kṣāra²⁷³⁰ and the leather-worker manufactured oil flasks and "shoes of white leather very elaborately worked and high-heeled so as to make the wearer seem taller."²⁷³¹ The shoes of the Vratyas are described in the Kātyāyana Śrautasūtra²⁷³² as black and pointed (karṇinyan). The Gṛhyasūtras²⁷³³ and the Jātakas²⁷³⁴ refer to shoes some of which had only one sole²⁷³⁵ and were so stylish as to fetch 100, 500 and even 1000 pieces.²⁷³⁶ Vasiṣṭha in his Dharmasūtras²⁷³⁷ refers to objects made of leather among which the Jātakas mention (1) leather undergarment (chamma nivāsana)²⁷³⁸ (2) leather upper garment (chamma prāvarana)²⁷³⁹ (3) leather coverlet of chariot²⁷⁴⁰ (4) leather-made fittings of chariots²⁷⁴¹ (5) leather by which the arm is protected against the bowstring²⁷⁴² (6) leather-belt for elephant²⁷⁴³ (7) leather shoe for elephant²⁷⁴⁴ (8) leather umbrella for elephant²⁷⁴⁵ (9) leather strap to

²⁷²⁶ Sāṅkhyāyana Gṛhyasūtra, III. 2. 9.

²⁷²⁷ Pañchāudha Jātaka (No. 55);
Kumbha (No. 512).

²⁷²⁸ No. 531.

²⁷²⁹ No. 547.

²⁷³⁰ In the Mahānirmārga Jātaka (No. 546) we have "Phalasatam chammam." According to the commentator phalasam=phalasatap pamāṇam vahu kṣāre khādāpetvā mīdubhāvamupanītam.

²⁷³¹ Nearchos, Fragments 9 and 10—Arrian—Indica, 16.

²⁷³² XXII. 4.

²⁷³³ Āśvālāyana, III. 8. 1; Khadira, II. 5. 16; III. 1. 25; III. 1. 41;

Pārśvaka, II. 6. 30, 32; Sāṅkhyāyana, III. 1. 10, 18.

²⁷³⁴ Upānaha Jātaka (No. 231).

²⁷³⁵ Tilamuṭṭhi Jātaka (No. 256);
Brahmadatta (No. 323).

²⁷³⁶ Sankha Jātaka (No. 42).

²⁷³⁷ III. 49—63.

²⁷³⁸ Brahmadatta Jātaka (No. 323).

²⁷³⁹ Ibid.

²⁷⁴⁰ Kukkura Jātaka (No. 22).

²⁷⁴¹ Ibid.

²⁷⁴² Āśvālāyana Gṛhyasūtra, III. 12. 11.

²⁷⁴³ śaḍadanta Jātaka (No. 514).

²⁷⁴⁴ Ibid.

²⁷⁴⁵ Ibid.

bind a dog²⁷⁴⁶ (10) net of leather-straps to catch deer²⁷⁴⁷ (11) leather case for keeping sword²⁷⁴⁸ (12) leather bag for keeping wealth (chamma pasivvaka)²⁷⁴⁹ and (13) leather made vessel for sprinkling water on plants.²⁷⁵⁰

(7) *Wine-distilling*: The preparation of wine was an important industry as drinking was quite common in those days. The Surāpāna Jātaka²⁷⁵¹ gives us the mythological origin of surā and vāruṇi wines and dilates on the evils of drinking. In the Ayogrha Jātaka²⁷⁵² the uncertainty of human life has been compared to the uncertainty of the cloth of the drunkard which is liable to be exchanged at any moment for a glass of liquor. From the Sāṅkhyāyana Gṛhyasūtra²⁷⁵³ we find that on occasions of marriage four or eight women who are not widows drink wine and dance four times. The Jātakas²⁷⁵⁴ also show that drinking formed an important part of all festive ceremonies. From the Surāpāna Jātaka²⁷⁵⁵ we learn that there was a Drink Festival probably like the Greek Dionysia and the Roman Bacchanalia. In the Gangāmāla Jātaka²⁷⁵⁶ we read of a day-labourer and his lady-love who decided to join a festival and to regale themselves with strong drink, garland and perfumes. We read of liquor-shops (āpāna),²⁷⁵⁷ liquor cups²⁷⁵⁸ and of dried fish taken along with liquor.²⁷⁵⁹ We find different varieties of wine like (1) surā²⁷⁶⁰ (2) meraya (= Sans. maireya)²⁷⁶¹ (3) vāruṇi²⁷⁶² (4) kapotikā²⁷⁶³ (5) kilāla²⁷⁶⁴

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| Sunaka Jātaka (No. 242); ṣaḍadanta (No. 514). | No. 421. |
| Suvarṇamṛga Jātaka (No. 359). | ²⁷⁵⁷ Anavirati Jātaka (No. 65). |
| ²⁷⁴⁸ Asadṛṣa Jātaka (No. 181); Gaṇḍatinduka (No. 519). | ²⁷⁵⁸ Illisa Jātaka (No. 78). |
| ²⁷⁴⁹ Vṛhachobhatra Jātaka (No. 336); of. ṣaḍadanta (No. 514). | ²⁷⁵⁹ Ibid. |
| ²⁷⁵⁰ Arāmadūṣaka Jātaka (No. 46). | ²⁷⁶⁰ Illisa (No. 78); Surāpāna (No. 81); Pāḍakuśalamāpava (No. 432); Tuṇṭila (No. 388); Sāṅkhyāyana Gṛhyasūtra, I. 11. 5. |
| ²⁷⁵¹ No. 81. | ²⁷⁶¹ Viśwantara Jātaka (No. 547). |
| ²⁷⁵² No. 510. | Vāruṇi (No. 47); Surāpāna (No. 81). |
| ²⁷⁵³ I. 11. 5. | ²⁷⁶³ Surāpāna Jātaka (No. 81). |
| ²⁷⁵⁴ Tuṇṭila Jātaka (No. 388); Pāḍakuśalamāpava (No. 432). | Sāṅkhyāyana Gṛhyasūtra, III. 3. 7; See Zimmer—Altindisches Leben, p. 281. |
| ²⁷⁵⁵ No. 81. | |

(6) wine prepared out of the juice of sugarcane.²⁷⁶⁵ (7) and wine prepared out of grapes for which Kapisa was famous in the days of Pāṇini.²⁷⁶⁶ Kapotikā wine was a rarity though the ordinary variety of wine seems to have been cheap for a glass was worth only one māṣā.²⁷⁶⁷ Liquor of superior strength²⁷⁶⁸ was however dear as appears from the Vāruṇi Jātaka²⁷⁶⁹ where we are told of a wine-distiller who used to sell strong drink in exchange for gold and silver pieces.

(8) *Stone-work* : In the Vabhru Jātaka²⁷⁷⁰ we find a worker in stone (pāṣāṇa-kuttaka) busy with his work of cutting stone in a ruined village and also hollowing out a cavity in a white crystal as a cage for a mouse. A crystal cave for a mouse is also mentioned in the Satyaṃkila Jātaka.²⁷⁷¹ Crystal palaces mentioned in the Jātakas²⁷⁷² some of which were seven-storeyed²⁷⁷³ are probably exaggerations. In the Śūkara Jātaka²⁷⁷⁴ we are told that the Gandhakuṭīra monastery was furnished with a marble staircase (maṇisopāṇa). Stone images of hares²⁷⁷⁵ and elephants²⁷⁷⁶ were also manufactured. We have already referred to the crystal bowl and steatite vases discovered within the Piprawa stupa belonging to 450 B. C., an examination of which shows that they were turned on the lathe the use of which accounts for their high polish and beauty.

(9) *Ivory work* : The worker in ivory (dantakāra) produced various articles including ornaments like bangles.²⁷⁷⁷ According to Nearchos "the Indians wear earrings of ivory, those that are very well off."²⁷⁷⁸ Benares was one of the principal centres of this industry which was developed enough to be localised in the ivory workers' ward (dantakāravithi).²⁷⁷⁹

²⁷⁶⁵ Samudravāṇij Jātaka (No. 465).

²⁷⁶⁶ IV, 2, 99.

²⁷⁶⁷ Illisa Jātaka (No. 78).

²⁷⁶⁸ Pāraskara Gṛhyasūtra, III, 4, 9.

²⁷⁶⁹ No. 47.

²⁷⁷⁰ No. 137.

²⁷⁷¹ No. 73.

²⁷⁷² Mitravinda Jātaka (No. 367); Āṣaṅkā (No. 380); Chaturdvāra (No. 439); Nemi (No. 541).

²⁷⁷³ Iśāsaka Jātaka (No. 41).

²⁷⁷⁴ No. 153.

²⁷⁷⁵ Ghaṭa Jātaka (No. 454).

²⁷⁷⁶ Mātṛpoṣaka Jātaka (No. 455).

²⁷⁷⁷ Kāṣāya Jātaka (No. 221).

²⁷⁷⁸ Fragments 9 and 10 = Arrian—Indica, 16.

²⁷⁷⁹ Śilavannāga Jātaka (No. 72); Kāṣāya (No. 221).

(10) *Work in bone, horn, conch-shell and coral* : Vaśiṣṭha in his Dharmasūtras²⁷⁸⁰ refers to objects made of bone and conch shells. The Jātakas²⁷⁸¹ frequently refer to the manufacture of bows from the horn of the sheep on account of its flexibility just as Homer's Illiad refers to the Greek custom of manufacturing box from the horn of the ibex. The mention in the Ghaṭa Jātaka²⁷⁸² of images of hares made of coral and of jewels (māṇikyā) is corroborated by the find of ornaments made of coral and precious stones in the Piprawa stupa belonging to 450 B. C.

(11) *Salt industry* : The preparation of salt by the evaporation of saline water is clearly referred to in the Bhūridatta Jātaka.²⁷⁸³ The manufacture of salt by the loṇakāra²⁷⁸⁴ is also mentioned in the Kauśāmvi Jātaka.

(12) *Sugar* : Extraction of juice from sugarcane and preparation of molasses by thickening the juice by heating it on fire is described in the Mahāsvapna Jātaka.²⁷⁸⁵ In this connection the following remark of Megasthenes will be found interesting : "Stones are dug up of the colour of frankincense, more sweet than figs or honey."²⁷⁸⁶ These are probably sugarcandy which he took to be a kind of crystal.

(13) *Dyeing* : We find monks dyeing their chivara²⁷⁸⁷ and people using cloth dyed (1) in red colour (kāṣāya)²⁷⁸⁸ (2) with safflower (kusumbha)²⁷⁸⁹ (3) in yellow with karṇikāra flower,²⁷⁹⁰ (4) in blue with kaṇṭakuraṇḍa²⁷⁹¹ and (5) in golden colour.²⁷⁹²

In those days cloth was stiffened with ²⁷⁹³ starch and then polished with conch (śankha). The Khullanārada Jātaka ²⁷⁹⁴ also refers to an

²⁷⁸⁰ III. 49—63.

²⁷⁸¹ Asadīśa (No. 181); Śarabhaṅga (No. 522); Khaṇḍahāla (No. 542).

²⁷⁸² No. 454.

²⁷⁸³ No. 543.

²⁷⁸⁴ No. 428.

²⁷⁸⁵ No. 77.

²⁷⁸⁶ Fragment 10 = Strabo XV. C. 703.

²⁷⁸⁷ Varuṇa (No. 71); Guṇa (No. 157).

²⁷⁸⁸ Godhā (Nos. 138 and 325).

²⁷⁸⁹ Puṣparakta Jātaka (No. 147).

²⁷⁹⁰ Guṇa (No. 157); Dardara (No. 172).

²⁷⁹¹ Dardara Jātaka (No. 172).

²⁷⁹² Kāṣāya Jātaka (No. 221).

²⁷⁹³ Vaka Jātaka (No. 38).

²⁷⁹⁴ No. 477.

upper garment which was thus stiffened (ghaṭṭita) with starch. The Puṣparakṭa Jātaka ²⁷⁹⁵ refers to the custom of wearing cloth after it has been curled into a thousand folds.

Architecture :—In the pratyutpannavastu of the Jātakas ²⁷⁹⁶ we find frequent mention of kuti-kāra-sīkṣāpada (instruction to monks about the construction of houses) which is found in the Sūtravibhaṅga of the Vinaya Piṭaka. In the Grāmaṇichanda Jātaka ²⁷⁹⁷ we read of vāstu-vidyācārya who could find out the defects of building sites seven cubits underground and on whose advice the princes selected the sites for their palaces. The mason (iṭṭhaka-vaddhaki = Sans. iṣṭaka-varḍhaki) ²⁷⁹⁸ was known and the Jātakas ²⁷⁹⁹ frequently refer to seven-storeyed houses (Sattabhūmaka-pāsāda). In India the use to which these seven-storeyed buildings were put was entirely private and had nothing to do with any worship of the stars like the seven-storeyed Ziggurats of Chaldæa. The Jātakas also refer to a two-storeyed palace ²⁸⁰⁰ and to a one-pillared palace. ²⁸⁰¹ A vivid description of an unfinished palace as preserved in the Kukku Jātaka ²⁸⁰² corroborates the evidence of the Kuśanālī ²⁸⁰³ and Bhadrāsāla Jātakas ²⁸⁰⁴ regarding the general use of wooden pillars in the construction of a house though the use of iron pillars was not altogether unknown. ²⁸⁰⁵ The Jātakas describe various other types of buildings, among which we notice (1) thatched houses for the ordinary people ²⁸⁰⁶; (2) Dharmasālā in which seats were provided and drinking water kept stored up in jars ²⁸⁰⁷; (3) Āsana-sālā, resting place for travellers ²⁸⁰⁸; (4) Saṃsthāgīra (town-

²⁷⁹⁵ No. 147.

²⁷⁹⁶ Maṇikanṭha (No. 253); Brahmadaṭṭa (No. 323); Asthisena (No. 403).

²⁷⁹⁷ No. 257.

²⁷⁹⁸ Mahāunmārga Jātaka (No. 546).

²⁷⁹⁹ Khadirāṅgāra (No. 40); Illisa (No. 78); Mātanga (No. 497); ṣaḍadanta (No. 514); Viśwantara (No. 547).

²⁸⁰⁰ Komāyaputra Jātaka (No. 299).

²⁸⁰¹ Kuśanālī Jātaka (No. 121); Bhadrāsāla (No. 465).

²⁸⁰² No. 396.

²⁸⁰³ No. 121.

²⁸⁰⁴ No. 465.

²⁸⁰⁵ Ayogṛha Jātaka (No. 510).

²⁸⁰⁶ Āyāchitabhakṭa Jātaka (No. 17); Śakuna (No. 36); Aśātamantra (No. 61); Mṛḍulakṣapa (No. 66); Kuddāla (No. 70); Madhyama Nikāya, Sutra 81.

²⁸⁰⁷ Kulāyaka Jātaka (No. 31).

²⁸⁰⁸ Abhyantara Jātaka (No. 281).

hall)²⁸⁰⁹; (5) Chaitya built on the relic of Bodhisattva as kapirāja; ²⁸¹⁰ (6) kriḍāsālā which was constructed after the ground was levelled down and properly measured with a tape.²⁸¹¹ A portion of this building was reserved for the reception of guests, a portion for the poor and helpless, a portion for the delivery of poor and helpless women who were carrying and a portion for the merchants to store up their wares. The building was decorated with paintings inside and beautified by the excavation of a tank near by and the construction of an adjoining garden in which fruit and flower trees were planted; and (7) a privy (vachchhatthāna) with doors in which a lamp was kept burning the whole night.²⁸¹²

The details of buildings are found in abundance in the canonical texts of the Buddhists. Buddha enjoined on his devotees the supervision of building construction as one of the duties of the order.²⁸¹³ We read even of a care-taker of houses known as āvāsika.²⁸¹⁴ The Bhikkhus were thus told by the Blessed One with respect to buildings: "I allow you, O Bhikkhus, abodes of five kinds—vihāra, ardhayoga, prāsāda, harmya and gūhā."²⁸¹⁵ Vihāra is the well-known Buddhist monastery, originally implying the halls where the monks met. Ardhayoga literally means half-joining and according to Buddhaghosa²⁸¹⁶ refers to suvarṇa-vangagṛha which Professors Oldenburg and Rhys Davids have rendered as 'gold-coloured Bengal house'. Was it the much familiar Bengal house with gold-coloured straw-covering or thatch? It is called half-joining, for, both the halves of the roof are joined together at the ridge on the top of the roofing, looking like parted hair. Prāsāda is a residential storeyed building; harmya is a more pompous type of storeyed house. Gūhā literally means cave and would refer to under-

²⁸⁰⁹ Mahāmangala Jātaka (No. 453);
Bhadraśālā (No. 465).

²⁸¹⁰ Mahākapi (No. 407).

²⁸¹¹ Mahāunmārga Jātaka (No. 546).

²⁸¹² Triparyasta Jātaka (No. 16).

²⁸¹³ Chullavagga, VI. 17. 1.

²⁸¹⁴ Bīsa Jātaka (No. 488).

²⁸¹⁵ Vinaya texts: Mahāvagga, I. 30. 4.
Chullavagga, VI. 1. 2.

²⁸¹⁶ Buddhaghosa's commentary on
Mahāvagga I. 30. 4 runs thus:
Aḍḍayoga ti suvaṇṇa-vangageham.
Pāsādo ti dīghapāsādo. Hammi-
yān ti npari ākāsatale patitthitaku-
ṭṭāro pāsādo yeva. Gūhā ti
itthakaguhā silāguhā dāruguhā
paṃsuguhā.

ground buildings. One of the Jātakas²⁸¹⁷ actually contains an elaborate description of an underground palace and such have been the rock-cut temples, as in the famous Ajantā caves.

One should carefully select the building site so that it might be "not too far from the town and not too near, convenient for going and for coming, easily accessible to all who wish to visit him, by day not too crowded, by night not exposed to too much noise and alarm."²⁸¹⁸

After the selection of the site houses, at least of the richer classes, were extensively built, for, we are told that "an upāsaka (devotee) has built for his own use a residence, a sleeping room, a stable, a tower, an one-peaked building, a shop, a boutique, a storeyed house, an attic, a cave, a cell, a store-room, a refectory, a fire-room, a kitchen, a privy, a place to walk in, a well, a well-house, a yantragṛha (which is supposed by Buhler to be 'a bathing place for hot sitting baths'), a yantragṛha room, a lotus pond and a pavilion."²⁸¹⁹ Other houses comprised "dwelling rooms and retiring rooms and store-rooms and service-halls and halls with fire-places in them, and store-house, and closets, and cloisters and halls for exercise, and wells and sheds for the well, and bath-rooms and halls attached to the bath rooms and ponds and open-roofed sheds (maṇḍapas)".²⁸²⁰ The extensiveness of the buildings can be imagined from the length of time devoted to getting a house completely built. We are told that "with reference to the work of a small vihāra, it may be given in charge (of an overseer) as a navakarma (new work) for a period of five or six years, that on an addāyoga for a period of seven or eight or twelve years".²⁸²¹ That the long periods were not idled away will be clear from the detail of houses gathered mainly from the Vinaya texts.²⁸²²

The whole compound is enclosed with ramparts (prākāra) of three kinds, namely, brick walls, stone walls, and wooden fences which are again surrounded with bamboo fences, thorn fences and ditches.²⁸²³

²⁸¹⁷ Mahānismārga Jātaka (No. 546).

²⁸¹⁸ Chullavagga, VI. 4. 8.

²⁸¹⁹ Mahāvagga, III. 5. 9 ; also III. 5. 6.

²⁸²⁰ Chullavagga, VI. 4. 10.

²⁸²¹ Ibid., VI. 17. 1.

²⁸²² Ibid., VI. 5.

²⁸²³ Chullavagga, VI. 3. 7. 10.

Gateways are built with rooms and ornamental screen-work over them;²⁸²⁴ and gates are made of stakes interlaced with thorny brakes.²⁸²⁵

Five kinds of roofing are mentioned—brick-roofing, stone-roofing, cement roofing, straw-roofing and roofing of leaves.²⁸²⁶ The roof is first covered with skins and plastered within and without; then follow white-wash, blocking, red-colouring, wreath-work and creeper-work.²⁸²⁷ The wooden roof of the underground palace described in the Mahāunmārga Jātaka²⁸²⁸ was covered with ulloka mattikā and painted white. Ulloka was an under-cloth used in the making of 'gadi'; so it appears that the wooden roof was covered with cloth plastered with mud over which white-wash was applied.

The floors were of earth, not of wood, and were restored from time to time by fresh clay or dry cowdung being laid down, and then covered with a whitewash, in which sometimes black or red was mixed. From the parallel passage in Mahāvagga (I. 25. 15) and Chullavagga (VIII. 3. 1) it would seem that the red colouring was used rather for walls, and the black one for floors. It appears, however, that with a view to removing the dampness²⁸²⁹ gravel was spread over the floor.²⁸³⁰

The doors are furnished with "door-posts and lintel, with hollows like a mortar for the door to revolve in, with projections to revolve in those hollows, with rings on the door for the bolt to work along in, with a block of wood fixed into the edge of the door-post, and containing a cavity for the bolt to go into (called the monkey's head), with a pin to secure the bolt by, with a connecting bolt, with a key-hole, with a hole for a

²⁸²⁴ Ibid., VI. 4. 10; 3, 1; 'tosana' of which excellent work in stone have been found at the Sānchi and Bharhut Topes.

²⁸²⁵ Chullavagga, VI. 3. 10.

²⁸²⁶ Ibid., VI. 3. 10; Compare also VI. 3. 8; 3. 3 etc.

²⁸²⁷ Ibid., V. 11. 6; the rendering of the term 'ogumpheti' which also

occurs in the Mahāvagga, V. 11 by 'skins' seems doubtful and unsuitable. Buddhaghosa in his note at the latter place says 'agum phiyantīti bhitti dandakādisu, veṭhetvā bandhāti.'

²⁸²⁸ No. 545.

²⁸²⁹ Rhys Davids and Oldenburg, note on Chullavagga, VI. 20. 2.

²⁸³⁰ Compare Chullavagga, V. 14. 5.

string with which the door may be closed, and with a string for that purpose."²⁸³¹

The windows are stated to be of three kinds according as they are made with railings, lattices or slips of wood.²⁸³² The shutters are adjustable and can be closed or opened whenever required.²⁸³³

There were stairs of three kinds viz., brick stairs, stone stairs and wooden stairs; and they were furnished with *ālambana-bāhā* or balustrades.²⁸³⁴ The Gandhakuṭīra monastery was adorned by a marble stair case.²⁸³⁵ A detailed description of flights of stairs is given in the *Mahāsudassana Sutta*: "Each of these had a *thambhī*, evidently posts or banisters; *sūciyo*, apparently cross-bars let into these banisters; and *uṇhisam*, either a headline running along the top of the banisters or a figure-head at the lower end of such headline."²⁸³⁶

In the *Vinaya Texts*²⁸³⁷ we find described another sort of building—the hot-air baths. "They were built on an elevated basement faced with brick or stone with stone stairs upto it, and a railing round the verandah. The roof and walls were of wood, covered first with skins, and then plaster; the lower part only of the wall being faced with bricks. There was an ante-chamber, and a hot-room and a pool to bathe in. Seats were arranged round a fire-place in the middle of the hot-room; and to induce perspiration hot water was poured over the bathers."

In the *Dīgha Nikāya*²⁸³⁸ there is a description of another sort of bath, an open-air bathing tank with flights of steps leading to it faced entirely of stone, and ornamented both with flowers and carvings.²⁸³⁹

²⁸³¹ *Chullavagga*, VI. 3. 8; also 2. 1 and 17. 1.

²⁸³² *Chullavagga*, VI. 2. 2.

²⁸³³ *Mahāvagga*, I. 25. 18; *Chullavagga*, VIII. 2. 2.

²⁸³⁴ *Chullavagga*, VI. 11. 6.

²⁸³⁵ *Sūkara Jātaka* (No. 153).

²⁸³⁶ *Mahāsudassana Sutta*, I. 59. See also Rhys Davids — *Buddhist Suttas*, p. 262; Compare *Chullavagga*, VI. 3. 3.

²⁸³⁷ III. pp. 110, 297.

²⁸³⁸ Rhys Davids—*Buddhist Suttas*, pp. 262 ff.

Rhys Davids in his *Buddhist Suttas*, p. 76 refers to several ancient baths still to be seen at Anurādhapura in a fair state of preservation in spite of the lapse of more than two thousand years that have elapsed since they were first constructed.

The Gr̥hyasūtras²⁸⁴⁰ have also preserved many rules and rites on house-building. The building site we are told must be (1) even ground²⁸⁴¹ (2) inclined towards the south-west²⁸⁴² or a place from where the water flows off to the north-west²⁸⁴³ or to the north²⁸⁴⁴ (3) non-saline soil of undisputed property²⁸⁴⁵ (4) covered with grass, herbs and trees²⁸⁴⁶ (5) having no plants with thorns and milky juice²⁸⁴⁷ (6) immune from destruction (by inundation etc.)²⁸⁴⁸ (7) square in size²⁸⁴⁹ or an oblong quadrangle in size²⁸⁵⁰ or should have the form of a brick²⁸⁵¹ or of a round island²⁸⁵² and (8) there should be natural holes in the ground on all directions.²⁸⁵³ The building-site is also to be examined in the following ways: "He should dig a pit knee-deep and fill it again with the same earth (which he has taken out of it). If (the earth) reaches out (of the pit, the ground is) excellent; if it is level, (it is) of middle quality; if it does not fill (the pit it is) to be rejected. After sunset he should fill (the pit) with water and leave it so through the night. If (in the morning) there is water in it (the ground is) excellent if it is moist, (it is) of middle quality; if it is dry, (it is) to be rejected".²⁸⁵⁴ The arrangement not only of the posts but also of doors²⁸⁵⁵ is carefully described. One should not, we are told, build a house with its door to the west.²⁸⁵⁶ Let him construct a back-door so that it does not face the (chief) house-door; so that the householder or rather his valuable objects etc., which are in the house cannot be seen by passers-by.²⁸⁵⁷

²⁸⁴⁰ Sāṅkhyāyana, III. 2-3; Āśvālāyana, II. 7-9; Pāraskara, III. 4. 1-4; 10-14, 18; Khadira, IV. 2. 6-15; Govila, IV. 7; Hiranyakeśin, I. 27-28; Āpastamva, 17.

²⁸⁴¹ Govila, IV. 7. 7.

²⁸⁴² Āpastamva, 17. 1.

²⁸⁴³ Khadira, IV. 2. 7.

²⁸⁴⁴ Govila, IV. 7. 3.

²⁸⁴⁵ Āśvālāyana, II. 7. 2; Khadira, IV. 2. 6.

²⁸⁴⁶ Āśvālāyana, II. 7. 3-4; Khadira, IV. 2. 6, 9-11; Govila, IV. 7. 2.

²⁸⁴⁷ Āśvālāyana, II. 7. 5-6; Khadira, IV. 2. 8; Govila, IV. 7. 4.

²⁸⁴⁸ Govila, IV. 7. 2.

²⁸⁴⁹ Āśvālāyana, II. 8. 9.

²⁸⁵⁰ Ibid., II. 8. 10.

²⁸⁵¹ Khadira, IV. 2. 12; Govila, IV. 7. 12.

Govila, IV. 7. 13.

²⁸⁵³ Ibid., IV. 7. 14; Khadira, IV. 2. 13.

²⁸⁵⁴ Āśvālāyana Gr̥hyasūtra, II. 8. 2-5 = S. B. E. Vol. XXIX. p. 212.

²⁸⁵⁵ Khadira Gr̥hyasūtra, IV. 2. 14-15; Govila Gr̥hyasūtra, IV. 7. 15-21.

²⁸⁵⁶ Govila Gr̥hyasūtra, IV. 7. 18.

²⁸⁵⁷ Ibid., IV. 7. 19-21. See also Oldenburg's notes on this passage in S. B. E., Vol. XXX. p. 121.

The temple of the gods is mentioned in Pāṇini.²⁸⁵⁸ In the Mānava Gr̥hyasūtra²⁸⁵⁹ we are told "Let a daughter be married in a temple." The Sāṅkhyāyana Gr̥hyasūtra²⁸⁶⁰ also refers to god's houses which one is enjoined to walk round, keeping right side turned towards them.

Fortunately for us we have some extant remains of the buildings of this period. The Baiṭhak of Jarāsandha and the walls of Rājagṛha the ruins of which have been unearthed, were built according to Cunningham before the 5th century B. C. Many of the Buddhist caves like those of Khandagiri and Udayagiri in Orissa were anterior to the invasion of India by Alexander the Great (326 B. C.) The Dāgobas or topes were another class of monuments erected in the cemeteries.²⁸⁶¹ "The solid dome erected by the Sākiyas over their share of the ashes must have been about the same height as the dome of St. Paul measured from the roof."²⁸⁶² Indeed much light is thrown on the fine masonry work of this period by the discovery in 1898 on the Nepal frontier of the Piprawa stupa about which Mr. V. A. Smith rightly observes "The construction and contents of the stupa offer valuable testimony concerning the state of civilisation in Northern India about 450 B. C. which is quite in accordance with that elicited from early literary sources."²⁸⁶³

Sculpture—The sculptor (Kundakāra)²⁸⁶⁴ worked in wood, gold, coral and stone. The vivid description of the life-like images of many birds and beasts sculptured on the Vaijayanta chariot²⁸⁶⁵ may be a poet's imagination but the image of Buddha made of red sandalwood which Ghoṣila, minister of king Udayana of the Vatsa country, a contemporary of Buddha caused to be made existed down to the time of Hiuen Tsang who saw it during his visit to Kauśāmyi.²⁸⁶⁶ In the Aśtamantra Jātaka²⁸⁶⁷ an ācārya of Taxila is said to have produced out of udumvara wood a life-like image of his own self.

²⁸⁵⁸ V. 3. 96—100.

²⁸⁵⁹ I 7. 10.

²⁸⁶⁰ IV. 12. 15.

²⁸⁶¹ Vinaya texts, IV. p. 308.

²⁸⁶² Rhys Davids.

²⁸⁶³ Imperial Gazetteer of India (new edition), Vol. II. p. 102.

²⁸⁶⁴ Mahāunmārga Jātaka (No. 546).

²⁸⁶⁵ Sudhābhajana Jātaka (No. 535).

²⁸⁶⁶ Beal—Buddhist Records of the Western world, Vol I. p. 235.

²⁸⁶⁷ No. 61.

In the Jātakas²⁸⁶⁸ we also read of a prince who agreed to marry only when a girl like the image of gold which he caused to be prepared could be found out. In the Kuśa Jātaka²⁸⁶⁹ we are told that the golden image of a princess which was made by prince Kuśa was far superior to the one prepared by the royal sculptor.²⁸⁷⁰ A life-like image of a lady and images of elephants made of gold as dolls for children²⁸⁷¹ are also mentioned.

A stone-image of Bodhisattva as elephant²⁸⁷² and images of hares made of coral²⁸⁷³ were also known.

Painting—Painting was well-known and the painters were organised into a guild.²⁸⁷⁴ The life-like paintings of elephants, horses, chariots and various objects of natural scenery on the walls of the underground palace described in the Mahānūmārga Jātaka²⁸⁷⁵ may be a poet's imagination but when we find that Buddha prohibited the use of love-scenes painted in frescoes but permitted the representations of wreaths, creepers, fine ribbon and dragon's teeth in fresco-painting²⁸⁷⁶ we may safely expect at least a sub-stratum of truth in the poetic exaggeration. Painted punkhas²⁸⁷⁷ and a picture-gallery (chittigāra) belonging to king Pasenadi of Kośala²⁸⁷⁸ are also mentioned.

The occupations—The pursuit of agriculture in this period was associated neither with social prestige nor with social stigma. The stricter Brahmin tradition not only in the law-books but also in the Suttanipāṭa, the Majjhima Nikāya and the Jātakas expressly reserves the two callings of agriculture and trade for the vaiśyas and judges them unfit for the brahmins and the kṣatriyas. Thus, the brahmin Esukari of Śrāvastī considers tillage and dairy-farming as not less the property and province of the vaiśya than are bow and arrow, endowed maintenance (by alms)

²⁸⁶⁸ Ananūsōchaniya Jātaka (No. 328) ;
Udaya (No. 458).

²⁸⁶⁹ No. 531.

²⁸⁷⁰ Mahānūmārga Jātaka (No. 546).

²⁸⁷¹ Mūkapāṅgu Jātaka (No. 538).

²⁸⁷² Mātṛpoṣaka Jātaka (No. 455).

²⁸⁷³ Ghaṭa Jātaka (No. 454).

²⁸⁷⁴ Jātaka VI. 427.

²⁸⁷⁵ No. 546.

²⁸⁷⁶ Vinaya texts, Vol. II. p. 67 ; Vol. IV. p. 74.

²⁸⁷⁷ Kuśa Jātaka (No. 531).

²⁸⁷⁸ Rhys Davids—Buddhist India, p. 68.

and sickle and yoke, the property and province of the kṣatriyas, brahmins and working classes respectively.²⁸⁷⁹ The Vāseṭṭha sutta²⁸⁸⁰ reveals the same exclusive spirit as correct. And in the Daśa-brāhmaṇa Jātaka²⁸⁸¹ brahmins who engage themselves in tillage and other callings are declared to have fallen from brahminhood. On the other hand in both the Jātakas²⁸⁸² and the Suttas²⁸⁸³ not only are brahmins frequently found pursuing tillage but also no reflection is passed upon them for so doing, nay the brahmin farmer at times, is a pious man and a Bodhisattva to boot.²⁸⁸⁴ Dr. Fick is disposed to think that the Udicca brahmins²⁸⁸⁵ of the north-west inherited a stricter standard.²⁸⁸⁶ Nevertheless it is not claimed for the pious ones just mentioned living near Benares and in Magadha that they were Udicca brahmins. As to the kṣatriya clansmen of the tribal republics, they were largely cultivators of the soil. For instance in the Kuṇḍala Jātaka²⁸⁸⁷ it was the Sākiyan and Koliyan peasants who began to quarrel over the prior turn to irrigate.

But agriculture though it remained the principal occupation of the mass of the population lost its attraction for the more arduous spirits who began to crowd into cities lured by the finery of city-life, by the chances of greater income by trade or employment and by other facilities. The diversity of occupations that sprang up in the Brāhmaṇa period became more pronounced in this epoch as is evident from the large number of functional groups.

²⁸⁷⁹ M. II. 180.

²⁸⁸⁰ M. No. 98 ; S. N. III. 9.

²⁸⁸¹ No. 495.

²⁸⁸² Somadatta Jātaka (No. 211) ; Uraga (No. 354) ; Suvarṇakarkata (No. 389) ; Mahākapi (No. 516).

²⁸⁸³ Brahmin peasant Varadwāja in Suttanipāta.

²⁸⁸⁴ Uraga Jātaka (No. 354).

²⁸⁸⁵ Satyaṃkila (No. 73) ; Mahāsvapna (No. 77) ; Bhīmasena (No. 80) ;

Surāpāna (No. 81) ; Mangala (No. 87) ; Parasahasra (No. 99) ; Tittira (No. 117) ; Akālarāvi (No. 119) ; Āmra (No. 124) ; Lānguṣṭha (No. 144) ; Ekaparṇa (No. 149) ; Śata-dharmā (No. 179) ; Śvetaketu (No. 377) ; Nalinikā (No. 526) ; Mahāvodhi (No. 528).

²⁸⁸⁶ Sociale Gliederang Indien, 138 f.

²⁸⁸⁷ No. 536.

Among those who embraced learned professions we find (1) *Ācāryas* (teachers)²⁸⁸⁸ some of whom taught the children of villagers and were maintained by them;²⁸⁸⁹ while others imparted higher instruction in reputed centres of learning like Benares and Taxila in the three Vedas and the conventional eighteen *śilpas*²⁸⁹⁰ and were paid either in advance by rich students²⁸⁹¹ or after the completion of studies by poor students who collected their tuition fees by begging²⁸⁹² (2) *vejjas* (physicians) some of whom obtained a fee of 16,000 pieces by curing a merchant-prince's wife²⁸⁹³ (3) *viṣavaidyas* (curers of poisonous bites).²⁸⁹⁴ Then there was the army of (4) astrologers²⁸⁹⁵ (5) soothsayers²⁸⁹⁶ (6) *nimittapīṭhikas* (omen-readers)²⁸⁹⁷ (7) *angavidyāpīṭhikas* (those who can read the physical features of men and women)²⁸⁹⁸ (8) magicians (*māyākāra*, *māyāvi* or *aindrjālika*)²⁸⁹⁹ who came to be condemned by the Buddha as they preyed on the ignorance of the ordinary people. There were also besides the usual *hotṛ*, *adhvaryu* and *udgātṛ* various other classes of priests like those who officiated at the *Ahina* sacrifices,²⁹⁰⁰ the *sadasya*,²⁹⁰¹ the *samitri* and the *kāmasādhvaryavah*.²⁹⁰²

Besides the cultivator we find others who followed occupations allied to agriculture like the *parṇika* (grower of green vegetables only),²⁹⁰³ *trṇa-*

²⁸⁸⁸ *Varuṇa* (No. 71); *Lāṅguliṣa* (No. 123); *Upānaha* (No. 231); *Guptila* (No. 243); *Tilamuṣṭhi* (No. 252); *Tūṣa* (No. 338); *Tittira* (No. 438).

²⁸⁸⁹ *Lośaka* (No. 41); *Takka* (No. 63).

²⁸⁹⁰ *Bhīmasena* (No. 80); *Durmedhā* (No. 122); *Asadrśa* (No. 181); etc.

²⁸⁹¹ *Susīma* (No. 163); *Tilamuṣṭhi* (No. 252).

²⁸⁹² *Dyūta* (No. 478).

²⁸⁹³ *Vinaya* I. 272.

²⁸⁹⁴ *Viṣavānta* (No. 69); *Bhūridatta* (No. 543).

²⁸⁹⁵ *Brahmajāla Sutta*; *Nakṣatra Jātaka* (No. 49).

Ibid.

Ibid; *Mangala Jātaka* (No. 87); *Mahāmaṅgala* (No. 453); *Garga* (No. 155).

²⁸⁹⁸ *Pañchāudha* (No. 55); *Alīnachitta* (No. 156); *Nanāchhanda* (No. 289).

²⁸⁹⁹ *Vidurapāṇḍita* (No. 545); *Viśwan-tara* (No. 547); cf. *Daśāraṇa* (No. 401); *Āmra* (No. 474).

²⁹⁰⁰ *Sranta Sūtra*, IV. 1. 6. 7.

²⁹⁰¹ *Indische Studien*, X. 136, 144.

²⁹⁰² Max Mullers' *A. S. L.*, pp. 450, 469 seq.

²⁹⁰³ *Kuddāla Jātaka* (No. 70); *Parṇika* (No. 102).

hāraka (grass cutter),²⁹⁰⁴ gopāla (cowherd),²⁹⁰⁵ ajapāla (goatherd),²⁹⁰⁶ aśvapālaka²⁹⁰⁷ or aśvanivandhika²⁹⁰⁸ (horsegroom) and hastipālaka (elephantkeeper).²⁹⁰⁹

Of those engaged in the various arts the more important are :—(1) peśā-kāra (weaver)²⁹¹⁰ (2) karmāra (smith)²⁹¹¹ (3) maṇikṛt (jeweller)²⁹¹² (4) vardhaki (carpenter)²⁹¹³ (5) iṣṭaka-var dhakī (mason)²⁹¹⁴ (6) kundakara (sculptor)²⁹¹⁵ (7) rathakāra (chariot-maker)²⁹¹⁶ (8) kumbhakāra (potter)²⁹¹⁷ (9) carmakāra (tanner and leather-worker)²⁹¹⁸ (10) nalakāra (worker in reeds)²⁹¹⁹ (11) śoṇḍika (wine-distiller)²⁹²⁰ (12) dantakāra (ivory-worker)²⁹²¹ (13) loṇakāra (salt manufacturer)²⁹²² (14) pāsāna-kuṭṭaka (stone-cutter)²⁹²³ (15) sthapati (architect)²⁹²⁴ and (16) citrakāra (painter).²⁹²⁵

Among those who followed non-industrial occupations we find : (1) fishermen²⁹²⁶ (2) poultry-farmer (vartakavyādha or śākunika)²⁹²⁷ (3) niṣāda (butcher and hunter)²⁹²⁸ (4) barber,²⁹²⁹ (5) washerman (nirṇejaka)²⁹³⁰

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| Chullakaśreṣṭhī (No. 4) ; Viśahya (No. 340). | ²⁹¹⁷ Ibid. |
| ²⁹⁰⁵ Surāpāna (No. 81) ; Eka parṇa (No. 149). | ²⁹¹⁸ Ibid ; Mahāunmārga (No. 546). |
| ²⁹⁰⁶ Dhūmakāri (N. 413). | ²⁹¹⁹ Ibid. ; Grāmañchanda ; (No. 257) ; Kuśa (No. 531). |
| ²⁹⁰⁷ Tīrtha (No. 25) ; Surāpāna (No. 81) ; Eka parṇa (No. 149). | ²⁹²⁰ Vāruṇi (No. 47). |
| ²⁹⁰⁸ Giridanta (No. 184). | ²⁹²¹ Kāśyapa (No. 221) ; Śīlavannāga (No. 72). |
| ²⁹⁰⁹ Mahilāmukha (No. 26) ; Eka parṇa ; (No. 149). | ²⁹²² Kauśāmvī (No. 428). |
| ²⁹¹⁰ Suttavibhanga. | ²⁹²³ Vabhru (No. 137). |
| ²⁹¹¹ Kuśa Jātaka (No. 531) ; Mahāunmārga (No. 546). | ²⁹²⁴ Kuru (No. 213). |
| ²⁹¹² Vidurapaṇḍita Jātaka (No. 545) ; Kunāla (No. 536). | ²⁹²⁵ Mahāunmārga (No. 546). |
| ²⁹¹³ Anilachitta (No. 156) ; Samudra-vāṇij (No. 466) ; Mahāunmārga (No. 546). | ²⁹²⁶ Ubhatobhraṣṭa (No. 139). |
| ²⁹¹⁴ Mahāunmārga Jātaka (No. 546). | ²⁹²⁷ Vartaka (No. 118) ; Tittira (No. 319). |
| ²⁹¹⁵ Ibid. | ²⁹²⁸ Mayūra (No. 159) ; Rohantamīga (No. 501) ; Śyāma (No. 540) ; Khullahaṃsa (No. 533). |
| ²⁹¹⁶ Suttavibhanga. | ²⁹²⁹ Mahākedāra (No. 9) ; Śīgāla (No. 152). |
| | ²⁹³⁰ Ghaṭa (No. 454) ; Vidurapaṇḍita (No. 545). |

(6) sweeper (pupph-chhaddak)²⁹³¹ (7) tailor (tunnāvāya)²⁹³² (8) ferryman (tirthanāvika)²⁹³³ (9) pilot (jalaniyāmaka)²⁹³⁴ (10) land-pilot (sthala-niyāmaka)²⁹³⁵ (11) forest-guard (aṭavi-pāla)²⁹³⁶ (12) gardener (udyaṇa-pālaka)²⁹³⁷ (13) garland-maker (mālā-kāra)²⁹³⁸ (14) confectioner (modaka)²⁹³⁹ (15) bhūtavaidya (conjurer of evil spirits)²⁹⁴⁰ and (16) performer of spells.²⁹⁴¹

Among those who performed menial work we find (1) cook (pāchaka)²⁹⁴² (2) boy-servant²⁹⁴³ (3) attendant²⁹⁴⁴ (4) bath-attendant (snāpaka)²⁹⁴⁵ and shampooer (saṃvāhaka) [D. 1. 51].

In addition to these there were others who earned their living by amusing the public. Such were (1) the musician²⁹⁴⁶ (2) trumpet-blower (bherivādaka)²⁹⁴⁷ (3) blower of conchshells (saṃkhavādaka)²⁹⁴⁸ (4) blower of an instrument called mandraka²⁹⁴⁹ (5) actor (naṭa)²⁹⁵⁰ (6) wrestler (malla)²⁹⁵¹ (7) snake-charmer (ahitundika)²⁹⁵² and clown (soviya = souvika).²⁹⁵³

- Kunāla Jātaka (No. 536).
²⁹⁵² Nyagrodha Jātaka (No. 445);
 Mahāunmārga (No. 546).
²⁹⁵³ Avārya Jātaka (No. 376).
²⁹⁵⁴ Supārāga Jātaka (No. 433).
²⁹⁵⁵ Vaṇṇupatha Jātaka (No. 2).
 Daśabrāhmaṇa (No. 475); Vaṇṇu-
 patha (No. 2); Jayaddiṣa (No. 513).
²⁹⁵⁷ Vātamiṅga Jātaka (No. 14); Paṭa-
 dūṣaka (No. 280).
²⁹⁵⁸ Kulmāṣapinda Jātaka (No. 414);
 Vidurapaṇḍita (No. 545).
²⁹⁵⁹ Viśwantara Jātaka (No. 547).
 Kāmanīta Jātaka (No. 228).
 Brahmajāla 1.1. Sutta; Vedavbha
 Jātaka (No. 48); Sarvadaṃṣṭrā
 (No. 241); Vṛha-chchhatra
 (No. 336); Kharaputra (No. 386);
 Parantapa (No. 416).

- Kapota Jātaka (No. 42); Lola
 (No. 274); Vidurapaṇḍita (No. 545).
²⁹⁴³ Vaṇṇupatha Jātaka (No. 2); Bhīma-
 sena (No. 80); Vālodaka (No. 183).
 Chulikaśreṣṭhi Jātaka (No. 4).
²⁹⁴⁵ Khaṇḍahāla (No. 542).
²⁹⁴⁶ Vidurapaṇḍita Jātaka (No. 545);
 Viśwantara (No. 547).
 Bherivādaka Jātaka (No. 59).
 Sankhadharma Jātaka (No. 60).
²⁹⁴⁹ Viśwantara Jātaka (No. 547).
 Uchchhiṣṭa Jātaka (No. 212);
 Vidurapaṇḍita (No. 545); Pāṇini
 IV. 3. 110, 129.
²⁹⁵¹ Vālodaka (No. 183); Ghāṭa (No.
 454). cf. Muṭṭhika = muṣṭika in
 Vidurapaṇḍita (No. 545).
 Ślamimāṃsā (No. 86); Ahitundika
 (No. 365); Chāpeya (No. 506).
²⁹⁵³ Vidurapaṇḍita Jātaka (No. 545).

Guilds—We have seen that in an earlier period some of the functional groups came to be organised into guilds ; but it was during this period that the guilds came to play a prominent part in the various aspects of social life. The Mūkapangu²⁹⁶⁴ and Mahānunmūrga Jātakas²⁹⁶⁵ refer to the conventional number of eighteen guilds but it is to be regretted that only four of them viz., those of wood-workers, smiths, leather-dressers and painters are specially mentioned.²⁹⁶⁶ On the evidence of the Jātakas and the law books of the period we get however the names of the following guilds :—(1) wood-workers²⁹⁶⁷ (2) smiths²⁹⁶⁸ (3) leather-dressers²⁹⁶⁹ (4) painters²⁹⁷⁰ (5) garland-makers²⁹⁷¹ (6) caravan-traders²⁹⁷² (7) herdsmen²⁹⁷³ (8) moneylenders²⁹⁷⁴ (9) cultivators²⁹⁷⁵ (10) traders²⁹⁷⁶

	Mahāvapna (No. 77) ; Susīma (No. 163); Tilamuṭṭhi (No. 252) ; Śavaka (No. 309) ; Vandhanumokṣa (No. 120) ; Andhabhūta (No. 62) ; Kurudharma (No. 276) ; Nānāchhanda (No. 289) ; Rathalaṭṭhi (No. 332) ; Hastipāla (No. 509) ; Susīma (No. 411) ; Chedi (No. 422) ; Kimchhanda (No. 511).		Gapdatindu (No. 529). Garga (No. 155).
2955	Tirtha (No. 25) ; Khaṇḍahāla (No. 542) ; Kūṭavāṇija (No. 218).	2952	Kuṇḍavera Jātaka (No. 318).
2956	Suhanu Jātaka (No. 158).	2953	Śilamimāṇsā Jātaka (No. 86).
2957	Khaṇḍhāla Jātaka (No. 542) ; Kūṭavāṇija (No. 218).	2954	No. 538.
	Tapdulanālī (No. 5) ; Suhanu (No. 158) ; Nemi (No. 541). Palnis of the Brethern, 25, 212.	2955	No. 545.
	Kurudharma (No. 276).	2956	“Vaddhaki-kammāra-chammakāra-chittakārādinānāsippa-kusalā.”
2960	Ibid.		Samudravāṇij Jātaka (No. 466) ; Mahāunmārga (No. 546).
		2958	Sūchi Jātaka (No. 387) ; kuśa (No. 531) ; Mahāunmārga (No. 546).
		2959	Mahāunmārga Jātaka (No. 546).
		2970	Ibid.
		2971	Kulmāṣapinda Jātaka (No. 415).
		2972	Jarudapāna Jātaka (No. 256).
		2973	Gantama XI. 21.
		2974	Ibid.
		2975	Ibid.
		2976	Ibid.

and (11) pilots.²⁹⁷⁷ Similarly, the moss-troopers numbering 500 of a little robber village near the hills of Uttara Pāñchāla²⁹⁷⁸ and the forest-police who escorted the travellers²⁹⁷⁹ were organised under a Jeṭṭaka. These craftguilds had three characteristics : (1) an alderman at the head (2) heredity of profession and (3) localisation of industry. The position of the alderman of the guild is indicated in the Sūchi Jātaka²⁹⁸⁰ where he is a great favourite of the king (rājavallabha) and in the Uruga jātika²⁹⁸¹ where he is an important minister of the king (of Kōśala). These heads of guilds were called pamukkha (chief or president) and also jeṭṭaka (elder, alderman), distinction between these two words being not apparent. In the Anguttara Nikāya we find the word pūga-gāmaṇika which means leader of a guild. There is one instance of all the guilds having a common chief who was also lord of the treasury of the kingdom of Kāśī.²⁹⁸² The centralisation in this case was perhaps due to quarrels between the foremen of the subordinate guilds such as those of Śrāsvastī.²⁹⁸³

The necessity for interdependence among people following a particular profession or craft led them to live together in a particular locality. We thus find villages inhabited solely by fowlers,²⁹⁸⁴ chandālas,²⁹⁸⁵ brahmins,²⁹⁸⁶ robbers,²⁹⁸⁷ hunters,²⁹⁸⁸ carpenters²⁹⁸⁹ and smiths.²⁹⁹⁰ This localisation of industry was also due, as we have already seen, to the policy of segregation adopted by the higher castes or the king with regard to the people following the hinasippa's and partly to the nearness of the market for their labour or product of their labour as the case may be. For these very reasons people following a particular profession or craft came to live together in special wards of the city. Thus we find the

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| 2977 | Supāruga Jātaka (No. 463). | 2985 | Āmra Jātaka (No. 474) ; Mātanga (No. 497) ; Chittasambhūta (No. 498). |
| 2978 | Jātaka I. 296 ; 297 ; II. 368 ; IV. 335. | 2986 | Kurudharma Jātaka (No. 276) ; Suvarṇa-kakkata (No. 389). |
| 2979 | Jātaka II. 335. | 2987 | Śaktigulma (No. 507). |
| 2980 | No. 387. | 2988 | Mayūra Jātaka (No. 159) ; Rohanta-mṛga (No. 501) ; Syāma (No. 540). |
| 2981 | No. 154. | 2989 | Alinachitta Jātaka (No. 156) ; Phandana (No. 475). |
| 2982 | Nyagrodha Jātaka (No. 445). | 2990 | Sūchi Jātaka (No. 387). |
| 2983 | Śreṇī-bhandana in Uruga (No. 154) and Nakula (No. 165) Jātakas. | | |
| 2984 | Khullahamṣa Jātaka (No. 533). | | |

ivory-workers' bazar,²⁹⁹¹ the weavers' ward²⁹⁹² and the vaiśya ward²⁹⁹³ of Benares and florists' quarter²⁹⁹⁴ and cooks' quarter²⁹⁹⁵ in Śrāvastī. Similarly in the Uvāsagadasao we are told that the kṣatriya quarter of Veśālī was different from that of the brahmins.

Combined with this widespread corporate regulation of industrial life there was a general but by no means cast iron custom for the son to follow the calling of his father. Not only individuals but also families are frequently mentioned in terms of their traditional calling. Thus Śāti the fisherman's son is Sāti, the fisherman; Chunda the smith is called Chunda the smithson.²⁹⁹⁶ Āpastamva²⁹⁹⁷ says "In successive births men of the lower castes are born in the next higher ones if they have fulfilled their duties." Gautama²⁹⁹⁸ says "Men of the several castes and orders who live according to their caste duties enjoy after death the rewards of their work." Āpastamva²⁹⁹⁹ says "In successive births men of the higher castes are born in the next lower ones if they neglect their duties. Āpastamva³⁰⁰⁰ enjoins the king to punish those who have transgressed the caste laws.³⁰⁰¹ Gautama³⁰⁰² authorises the king to punish such transgressors of caste laws.

The functions of these guilds were legislative, judicial and executive. The Vinaya Piṭaka lays down that a thief should not be ordained as a nun without the sanction of the guilds.³⁰⁰³ From the Vinaya Piṭaka³⁰⁰⁴ we further learn that the guilds had the function of arbitrators to settle differences between members and their wives. And Gautama³⁰⁰⁵ lays down that they have legislative functions, for, he refers to the validity of the laws and customs established by guilds.

²⁹⁹¹ Śīlavannāga Jātaka (No. 72); Kāṣāya (No. 221).
²⁹⁹² Bhīmasena Jātaka (No. 80).
²⁹⁹³ Viśwantara Jātaka (No. 547).
²⁹⁹⁴ Padma Jātaka (No. 261).
²⁹⁹⁵ Māṃsa Jātaka (No. 315).
²⁹⁹⁶ M. I. 256; D. II. 127 f.; Jātaka I. 98, 194, 312; II. 79; cf. niṣādo = luddaputto = luddo; Jātaka III. 330 f.; V. 356—8.

²⁹⁹⁷ II. 2—3; 10—11.

²⁹⁹⁸ XI. 29.

²⁹⁹⁹ II. 11. 11.

³⁰⁰⁰ II. 10. 12—16.

³⁰⁰¹ Cf. Āpastamva II. 27. 18.

³⁰⁰² XI. 31.

³⁰⁰³ Rājānaṃ vā saṃghaṃ vā gaṇaṃ vā pūgaṃ vā śreṇiṃ vā anapaloketa-vyā.

³⁰⁰⁴ IV. 226.

³⁰⁰⁵ XI. 21.

The learner or apprentice (*antevāsika*, lit. the boarder) appears frequently in Buddhist books, one of which indicates the relative position of pupil and master woodwright.³⁰⁰⁶ In the *Mahāvagga*³⁰⁰⁷ the Buddha says "The *ācārya*, O Bhikkhus, ought to consider the *antevāsika* as a son; the *antevāsika* ought to consider the *ācārya* as a father. Thus these two, united by mutual reverence, confidence and communion of life will progress, advance and reach a high stage in the doctrine and discipline. The *Vinaya Piṭaka* also gives elaborate rules regarding the duties of the of the pupil towards his teacher and vice versa and also rules regulating the relation between teacher and pupil and the conditions determining its admissibility or cessation. But these relate to the education in the sacred lore, religion and humanities and not to training in the crafts with which we are concerned. The apprentice in the industrial sense indeed appears frequently in the *Jātakas* though no conditions of pupilage are given. Thus in the *Kuśa Jātaka*³⁰⁰⁸ a prince apprentices himself to a potter, basket-maker, florist etc., in succession. The senior pupil also acts as assistant master (*prsthācārya*).³⁰⁰⁹ We have also instances of fees being paid by apprentices to teachers.³⁰¹⁰ But the conditions of pupilage, though not given in the Buddhist books are roughly foreshadowed by Gautama³⁰¹¹ who says "The apprentice may forsake his master either of his own motion (in which case he is liable to correction) or under instructions from his kinsmen who consented to his pupilage. In the latter case the deserted master can sue the pupil's guardians for a breach of contract."³⁰¹² But a contract cannot be onesided. Hence *Kātyāyana* who flourished in the third century B. C.³⁰¹³ fixed a penalty upon the teacher for employing the apprentice in other work. "He who does not instruct the pupil in the art and causes him to perform other work shall incur the first amercement and the pupil may forsake him and go to another teacher, released from the indenture."³⁰¹⁴

³⁰⁰⁶ *Atthasālini*, p. 111; *Jāt.* I. 251; V. 290 f.

³⁰⁰⁷ I. 32. 1.

³⁰⁰⁸ No. 531.

³⁰⁰⁹ *Anabhirati Jātaka* (No. 185); *Mahā-śrutasoma* (No. 537).

³⁰¹⁰ *Suśīma Jātaka* No. 163; *Tilamuṣṭhi*

(No. 252); cf. *Dyūta* (No. 478).

³⁰¹¹ II. 43-44.

³⁰¹² *Colebrooke's Digest of Hindu Law*, Vol. II. p. 8.

³⁰¹³ *Macdonell—History of Sanskrit Literature*.

³⁰¹⁴ *Ibid.*, Vol. II. p. 7.

Another interesting fact to be noticed is that though normally the crafts were organised on a hereditary basis and technical talent descended from father to son and was confined to particular family yet the way was still open to exceptions to that rule. Spiritual ministrations were the work of the brahmins and administration that of the kṣatriyas and brahmins though some share of it was being appropriated by the vaiśyas as in the case of the office of the king's treasurer³⁰¹⁵ with which was coupled the judgeship of the guilds. But these distinctions did not hold good in the economic sphere where all castes seemed to have stood together. In the Daśabrāhmaṇa Jātaka³⁰¹⁶ brahmins who followed the professions of a physician, charioteer, agriculturist, meat-seller, caravan-guard, hunter, dealer in fruits, ornaments etc., are condemned proving thereby, though indirectly, that some brahmins followed these occupations. In the Bhūridatta Jātaka³⁰¹⁷ we read "If the four-fold caste system was true then why do people other than kṣatriyas conquer kingdoms, why do non-brahmins become proficient in the Vedic mantras, why do non-vaiśyas carry on agriculture, why do not śūdras serve the twice-born castes? Indeed the choice of occupations was quite free. Thus in the Vinaya Piṭaka³⁰¹⁸ we find parents discussing the best profession which their wards might choose without a reference being made to the father's trades. In the Chullavagga³⁰¹⁹ the monks are allowed the use of a loom and of shuttles, strings, tickets and all the apparatus belonging to a loom. We also read of brahmins as physicians,³⁰²⁰ goatherds,³⁰²¹ merchants,³⁰²² hunters,³⁰²³ snake-charmers,³⁰²⁴ archers,³⁰²⁵ robbers,³⁰²⁶ cart-wrights,³⁰²⁷ agriculturists,³⁰²⁸ caravan-guard,³⁰²⁹ hawkers,³⁰³⁰ and even low caste trappers.³⁰³¹

³⁰¹⁵ Nyagrodha Jātaka (No. 445).
³⁰¹⁶ No. 495.
³⁰¹⁷ No. 543.
³⁰¹⁸ I. 77 ; IV. 128.
³⁰¹⁹ V. 28.
³⁰²⁰ Daśabrāhmaṇi Jātaka (No. 543).
³⁰²¹ Dīṇmakāri Jātaka (No. 413) ; Daśabrāhmaṇi (No. 543).
³⁰²² Daśabrāhmaṇi Jātaka (No. 543).
³⁰²³ Chullanandika Jātaka (No. 222) ;
 Indriya (No. 423).
³⁰²⁴ Chāṃpeya Jātaka (No. 506).

³⁰²⁵ Śarabhaṅga Jātaka (No. 522).
 Mahākṛṣṇa Jātaka (No. 469).
³⁰²⁷ Spandana Jātaka (No. 475).
³⁰²⁸ Somadatta Jātaka (No. 211) ; Uraga
 (No 354) ; Suvarnakarkata (No.
 389) ; Mahakapi (No. 516) ; cf. the
 Brahmin peasant Bharadwāja in
 Sutta Nipāta.
 Daśabrāhmaṇi Jātaka (No. 495).
 Garga Jātaka (No. 155).
³⁰³¹ Daśabrāhmaṇi Jātaka (No. 495).

In the Kuśa Jātaka³⁰³² a prince in his infatuation for a girl apprentices himself *incognito* in succession to the potter, basket-maker, florist and cook to his father-in-law, without a word being said as to his social degradation when these vagaries became known. Similarly a prince takes to trade³⁰³³ while another resigning his kingdom goes to the frontier where he dwells "with a rich merchant's family, working with his own hands."³⁰³⁴ We also read of a prince who only consents to marry when a princess is found exactly like a golden image which he himself had fashioned and which was far superior to that made by the chief smith employed for the purpose.³⁰³⁵ The Śankha Jātaka³⁰³⁶ speaks of a Brahmin who takes to trade to be better able to afford charitable gifts. Brahmins engaged personally in trading without such pretext are also mentioned.³⁰³⁷ Again we hear of a deer-trapper becoming the protege and then the inseparable friend of a rich young śreṣṭhī without a hint at social barriers;³⁰³⁸ a weaver looking on his handicraft as a mere makeshift and changing it offhand for that of an archer³⁰³⁹; a pious farmer and his son with equally little ado turning to the low trade of rush-weaving³⁰⁴⁰; a young man of good family, but penniless, starting on his career by selling a dead mouse for cat's meat at a farthing, turning his capital and hands to every variety of job and finally buying up a ship's cargo with his signet-ring as security and winning both a high profit in his transactions and the hand of a śreṣṭhī's daughter. "This freedom of initiative and mobility in trade and labour finds further exemplification in the enterprise of a settlement of wood-workers."³⁰⁴¹ Failing to carry out the orders for which prepayment had been made, they were summoned to fulfil the contract. But they instead of 'abiding in their lot' as General Walker the Economist³⁰⁴² said of their descendants 'with Oriental stoicism and fatalism' made a mighty ship secretly and emigrated with their families, slipping down the Ganges by night and so out to sea till they reached a fertile island.

³⁰³² No. 531.

³⁰³³ Jāt. IV. 184.

³⁰³⁴ Jāt. IV. 169.

³⁰³⁵ Kuśa Jātaka (No. 531).

³⁰³⁶ No. 442.

³⁰³⁷ Jātaka V. 22, 471.

³⁰³⁸ Jātaka III. 40 ff.

³⁰³⁹ Jātaka II. 87.

³⁰⁴⁰ Jātaka IV. 318.

³⁰⁴¹ Jātaka IV. 159.

³⁰⁴² The Wages Question p. 171.

Stories all these, not history ; nevertheless they serve to show that in these times the division of caste was not quite rigid and was no bar to the mobility of labour, both vertical and horizontal.”³⁰⁴³ Indeed social divisions and economic occupations were very far from coinciding. The fact that brahmins claimed credit if born of brahmins on both sides for generations back³⁰⁴⁴ betrays the existence of many born from a less pure connubium. In the Kuśa Jātaka³⁰⁴⁵ a Brahmin takes to wife the childless chief wife of a king without losing caste thereby. Elsewhere in the Jātakas princes, brahmins, śreṣṭhi's and even low castes are shown forming friendships, sending their sons to the same teachers and even eating together and intermarrying without any social stigma.³⁰⁴⁶ Even in Āpastamba sūtra³⁰⁴⁷ we find that a Śūdra can become a Brahmin and a Brahmin a Śūdra according to their good or bad deeds. Pāṇini³⁰⁴⁸ mentions a celebrated grammarian Chakravarman who was a kṣatriya by birth. All these evidences go to show that the dignity of labour was recognised though there were certain notable exceptions. Thus the Suttavibhanga³⁰⁴⁹ mentions certain low castes and certain low crafts. As instances of low castes are mentioned the Veṇa who according to Manu lived by beating drums etc., and whose prototype we find in the Bherivāda³⁰⁵⁰ and Śāṅkhadhma³⁰⁵¹ Jātakas ; the Niṣādas (hunters or trappers), Pukkasa³⁰⁵² whose occupation is said to be that of throwing away dead flowers³⁰⁵³ and the Chaṇḍālas who are called the meanest men on earth³⁰⁵⁴ who lived apart in their own settlements³⁰⁵⁵ by hunting and were sometimes employed for street-sweeping³⁰⁵⁶ and policing towns by night.³⁰⁵⁷ The

³⁰⁴³ Rapson—Cambridge History of India, Vol. I.

³⁰⁴⁴ D. I. 93 ; M. II. 156.

³⁰⁴⁵ No. 531 (- Jātaka V. 280).

³⁰⁴⁶ Jātaka II. 319 f ; III. 9—10 ; VI. 422 ; Jātaka I. 421, 422.

³⁰⁴⁷ II. 5—10.

³⁰⁴⁸ VI. 1. 130.

³⁰⁴⁹ Vinaya Piṭaka IV. 6—10.

³⁰⁵⁰ No. 59.

³⁰⁵¹ No. 60.

³⁰⁵² According to Maun the puckasa was the son of a chaṇḍāla by a śūdra female. He lived by hunting animals like iguana, porcupine etc., which live in holes.

³⁰⁵³ Jātaka IV. 205.

³⁰⁵⁴ Jātaka IV. 397.

³⁰⁵⁵ Āmra, Mātanga and Chittasambhūta Jātakas (Nos. 474, 497 and 498 respectively).

³⁰⁵⁶ Jātaka IV. 390.

³⁰⁵⁷ Jātaka III. 80.

sight of a chaṇḍāla we are further told forebodes evil³⁰⁵⁸; contact with the air that touches his body is pollution³⁰⁵⁹; partaking of his food even without knowledge leads to social ostracism³⁰⁶⁰ and even food seen by him is not to be taken.³⁰⁶¹ As examples of low crafts are mentioned those of the nalakāra (worker in grass and reeds) kumbhakāra (potter), pesakāra (weaver), charṇakāra (leather-worker) and nṛpita (barber). It should, however, be noted that the social stigma resting on these low trades was due sometimes to their very nature (as in the case of the butcher and the tanner) but chiefly to their association with the aboriginal non-Aryan tribes who followed them. Yet other despised callings were the black arts, explanation of signs, omens, auguries, dreams, foretelling events etc.³⁰⁶² Jātaka VI. 191 refers to the popular belief that even Nāgas do not dance for shame before actors. Jātaka II. 82 refers to Brethern who used to get a living by being physicians³⁰⁶³ or runners, doing errands on foot.....the 21 unlawful callings. It is very interesting to note that there is a substantial agreement between the Pāli works and Sanskrit law books in this connection. Thus Vasiṣṭha³⁰⁶⁴ condemns actors; also Baudhāyana³⁰⁶⁵ who adds to them stage-players and teachers of dancing, singing, and acting condemned as upapātakins.³⁰⁶⁶ It is thus evident that both the Buddhist and Hindu social opinions are practically at one in condemning certain crafts and professions on the basis of an absolute standard, determined on grounds of moral deficiency and in some cases of uncleanness of the processes of operation involved in the craft.

Similar agreement between Hindu and Buddhist books is to be found with regard to the mobility of labour already mentioned. Thus all the

³⁰⁵⁸ Mātanga (No. 497); Chittasambhūta (No. 498).

³⁰⁵⁹ Nassa chaṇḍāla kālakaṇṇi, adho-vātaṃ yāhi—Śvataketu (No. 377).

³⁰⁶⁰ Mātanga (No. 497).

³⁰⁶¹ Chittasambhūta (No. 498).

³⁰⁶² Chullavagga XII. 1. 3; Mahāśīla Tevijja Sutta, ch. II.

³⁰⁶³ Note the prohibition in the Hindu smṛti.

³⁰⁶⁴ III. 3.

³⁰⁶⁵ I. 5. 10, 14

³⁰⁶⁶ II. 1, 2, 13. Compare Āpastamba I. 6. 14; Gautama XVII. 17; Vasiṣṭha XIV. 2. 3.

Hindu law books authorise the twice-born classes to take to the occupation of an inferior caste in times of distress or on failure to obtain a living through lawful labour.³⁰⁶⁷ Gautama in his Dharmaśūtra³⁰⁶⁸ says that a brahmin can be a farmer and a trader, though trade in a certain specified articles are forbidden by him³⁰⁶⁹ as also by Āpastamba,³⁰⁷⁰ Baudhāyana³⁰⁷¹ and Vasiṣṭha.³⁰⁷² Vasiṣṭha³⁰⁷³ prohibits brahmins and kṣatriyas from being usurers but Baudhāyana³⁰⁷⁴ says that the vaiśya may practise usury. Even the brahmin priest who neglects his duties may at the king's pleasure be forced to do the work of a śūdra.³⁰⁷⁵ But though brahmins lived not only as gentlemen farmers but also as humble ploughmen³⁰⁷⁶ in this period a brahmin who persists in trade cannot be regarded as a brahmin nor can a priest who lives as an actor or physician.³⁰⁷⁷ In fact, there were recognised customs, not approved in one part of the country but admitted as good usage because locally approved in other parts. For, in discussing usage, Baudhāyana³⁰⁷⁸ expressly enumerates customs peculiar to the south and certain others peculiar to the north and adds that to follow these practices except where they are considered right usage is to sin but that for each practice the local rule is authoritative, though Gautama denies this.³⁰⁷⁹

The condition of the labouring classes : (a) *Free labourers*—There is very little evidence to prove that in India slavery ever became the basis of the economic life of the people. Labourers were mostly free and were paid for their work. The free labourers were called kammakara³⁰⁸⁰ and their wages³⁰⁸¹ were settled by higgling and haggling as in the Gangamāla Jātaka³⁰⁸² In the Avārya Jātaka³⁰⁸³ the ferryman is also

³⁰⁶⁷ Gautama VII. 6 ; Vasiṣṭha II. 22 ;

Baudhāyana II. 4. 16.

³⁰⁶⁸ X. 5. Compare Vasiṣṭha II. 24 f.

³⁰⁶⁹ VII. 9—20.

³⁰⁷⁰ I. 7. 20. 12—13.

³⁰⁷¹ II. 1. 2, 27.

³⁰⁷² II. 24—32.

³⁰⁷³ II. 40.

³⁰⁷⁴ V. 10. 21.

³⁰⁷⁵ Baudhāyana II. 4. 7. 15.

³⁰⁷⁶ Vasiṣṭha III. 33.

Ibid., III. 3.

³⁰⁷⁸ I. 1. 17 f.

Sacred Books of the East, Vol. II.
p. XLIX.

³⁰⁸⁰ Savaṇṇamārga Jātaka (No. 359) ;
Vidurapandita (No. 545).

Purisaṭṭhakaram in *Maṇikapāṭha*
Jātaka (No. 253),

No. 421.

No. 376.

advised to settle the fare by bargaining before taking a man to the other side of the river. The wage-earning class also existed in the days of Pāṇini³⁰⁸⁴ who uses the words *vetana* and *vaitanika*. The *Gangamāla Jātaka*³⁰⁸⁵ gives us an insight into the frivolous though gay life led by some of the free labourers of those days. We are told that there was a poor labourer who earned his livelihood by fetching water to others. He contracted questionable intimacy with a poor woman who also earned her living by fetching water. Learning that a great festivity is in progress in the city (of Benares) they decided to join it with their total savings of one *māṣaka* each which they spent in regaling themselves with garland, perfumes and wine. Though the wage-earner was no man's chattel yet his lot seems to have been very hard. In the *Serivāṇij Jātaka*³⁰⁸⁶ a free woman who earned her living by working as a domestic drudge in the house of a neighbour is described as living from hand to mouth and unable to save anything with which she could buy from the hawker articles for her only dependent, a grand-daughter. In the *Kuṇḍakapūpa Jātaka*³⁰⁸⁷ a free labourer of Śrāvastī is described as making his both ends meet with great difficulty and when the other citizens decided to make a corporate gift to the monks he decided to present Buddha with cakes prepared with the fine husk of rice which only he could spare.

In addition to these there were the day-labourers³⁰⁸⁸ whose lot was probably harder. He was to a great extent employed in the larger land-holdings³⁰⁸⁹ and paid either in board and lodging³⁰⁹⁰ or in money wages.³⁰⁹¹ In a list of callings given in the Buddhist books he ranks along with the mere hewers of wood and flower-gatherers and below the slave.³⁰⁹² In the *Sutanu Jātaka*³⁰⁹³ a day-labourer is described as earning one or one-half *māṣaka* a day with which he is reported to have

³⁰⁸⁴ IV. 4. 12.

³⁰⁸⁵ No. 421.

³⁰⁸⁶ No. 31.

³⁰⁸⁷ No. 109.

³⁰⁸⁸ *Bhṛtika* = Pāli *Bhātaka* in *Sutta Nipāta* I. 4 ; cf. S. I. 171 ; *Jātaka* III. 293 ; I. 468.

³⁰⁸⁹ *Jātaka* III. 406 ; IV. 43 ; S. N. p. 12.

³⁰⁹⁰ *Gangamāla Jātaka* (No. 421).

³⁰⁹¹ *Sutanu Jātaka* (No. 398).

³⁰⁹² D. I. 51 ; cf. Mil. 147 ; 331 ; A. I. 146, 206.

³⁰⁹³ No. 398.

maintained himself and the only other dependent, his mother with great difficulty.

(b) *Slaves*—Next, there were slaves who were an adjunct in comparatively rich households. The male slaves sometimes served as a valet or footman to his master's son³⁰⁹⁴ or as a store-keeper to his master³⁰⁹⁵; while the female slaves in royal establishments waited upon the queens and performed such duties as daily buying flowers for them³⁰⁹⁶ and looking after the jewels of the ladies in the royal harem.³⁰⁹⁷ In other households they had to husk paddy,³⁰⁹⁸ pound rice³⁰⁹⁹ and fetch water.³¹⁰⁰ They were sometimes put on hire to work for others.³¹⁰¹ Slaves seem to have been recruited from all classes of society. The Viśwantara Jātaka seems to point to the fact that the enslavement of high-born prince and princess was nothing which could shock the social ideas of the day. From the Vidurapaṇḍita Jātaka³¹⁰² we learn that slaves were of four kinds :—(1) garvadāsa, born slaves (i.e., children of slaves) (2) kṛitadāsa or those sold for money (3) bhaktadāsa or those who voluntarily recognise others as their owners for food and clothing (4) or for protection. To the *fifth* class belonged the karamaras of Pāli literature, those who were captured by the robbers that raided villages as in the Takka³¹⁰³ and Chullanārada³¹⁰⁴ Jātakas. These karamaras are akin to the dhvajāhṛta class of slaves described by Manu. To the *sixth* class belonged the daṇḍadāsa who were reduced to slavery as a judicial punishment. An instance of such degradation is furnished by the Kulāyaka Jātaka³¹⁰⁵ where the king enslaves the tyrannical village headman for his crimes.

The slaves formed part of the property of wealthy householders. "Wives and children, bondwomen and bondmen, goats and sheep, fowl and swine, elephants, cattle, horses and mares, together with gold and coins of

³⁰⁹⁴ Kaṭāhaka Jātaka (No. 125).

³⁰⁹⁵ Ibid.

³⁰⁹⁶ Dhammapada Commentary on verses 21—23.

³⁰⁹⁷ Mahāsāra Jātaka (No. 92).

³⁰⁹⁸ D. C. III. 321.

³⁰⁹⁹ Rohini Jātaka (No. 45).

³¹⁰⁰ Vimānavattu commentary p. 45.

³¹⁰¹ Nāmasiddhika Jātaka (No. 97).

³¹⁰² No. 545.

³¹⁰³ No. 63.

³¹⁰⁴ No. 477.

³¹⁰⁵ No. 31.

silver"³¹⁰⁶ all those ties the householder is said to pursue with blind and avid appetite. But knowing that they are fetters and encumbrances, even the unconverted man when speaking in praise of Gautama might say "He refrains from accepting slavewomen or slave-men."³¹⁰⁷ The Theragāthā indicates that they were completely at their master's control and had no freedom except that given to them by their masters.³¹⁰⁸ They could be gifted away³¹⁰⁹ or exchanged for another.³¹¹⁰ For this loss of *persona* Vasiṣṭha exempts them from taxation. For this very reason the master's consent was necessary for the slave's marriage. Pasenadi, king of Kośala had to obtain the consent of the master before he could marry Mallikā, daughter of a slave woman of one of the leading Śākya chiefs named Mahānāman. For the same reason the marriage of a slave with free women hardly improved his status.³¹¹¹ Similarly, sons born of a slave-girl by a free man were hardly regarded as free. Hence the Lichchhavis never recognised Vāsavakhattiya as a member of the Śākya family since she was the daughter of a Śākya prince by the slave-girl Nāgamundā.³¹¹²

The slaves, however, might be manumitted³¹¹³ or might free themselves by payment ;³¹¹⁴ but while still undischarged they were not even eligible for the pavajjā ordination.³¹¹⁵ As Rhys Davids³¹¹⁶ points out, although slaves might be admitted into some of the orders coexistent with the Buddhist saṃgha, Gotama restricted this custom, so that "whenever slaves were admitted to the Order they must have previously obtained the consent of their masters, and also, I think, have been emancipated". This is borne out by the story of the jealous woman who mutilated her female servant.³¹¹⁷ When the outrage was brought to light and the woman and her husband had been reprimanded by Gotama, they were converted to the

³¹⁰⁶ Majjhima, I. 162.

³¹⁰⁷ Dialogues, I. p. 5.

³¹⁰⁸ Psalms of the Brethern, p. 360 ; cf. Ibid., p. 22.

³¹⁰⁹ Asampradāna Jātaka (No. 131).

³¹¹⁰ Āpastamya I. 20. 15.

³¹¹¹ Chullaśreṣṭhi Jātaka (No. 4).

³¹¹² Bhadrāsāla Jātaka (No. 465).

³¹¹³ D. I. 72 ; Psalms of the Sisters, p. 117 ; Psalms of the Brethern, p. 22 ; Jātaka V. 313 (dāsajanam bhujiṣṣam katvā).

³¹¹⁴ Viśvantara Jātaka (No. 557).

³¹¹⁵ Mahāvagga I. 47.

³¹¹⁶ Dialogues I. p. 103.

³¹¹⁷ Dhammapada Commentary on verse 314.

faith, and then and there they freed the female slave and made her a follower of the Dhamma. The Therīgāthā commentary³¹¹⁸ tells us that Puṇṇā, daughter of Anāthapiṇḍada's domestic slave, was given freedom by her master when she defeated a Brahmin in argument and then allowed to enter the order.

The lot of the slave seems to have been far better than that of either the Greek or the Roman slave. From the Śrikālakarṇī,³¹¹⁹ Gangamāla³¹²⁰ and Uraga³¹²¹ Jātakas we find that the slaves were treated as members of the family and lived virtuous lives like their masters. Some of them, however, were in the habit of stealing like Khujjuttarā³¹²² though the influence of Buddha's dhamma had a splendid effect on their character. That the slaves remembered their happy personal relationship even when their former master had gifted them away to another and even tried to help their ex-master in his distress is evident from the Asampradāna Jātaka.³¹²³ It is no wonder, therefore, to find that a master, at the time of his death would show confidence in his slave by telling him only, where he had kept his secret treasure³¹²⁴ or would consult his slave-girl as to the nature of the boon he should ask of the king.³¹²⁵ In the Uraga Jātaka³¹²⁶ a slave-girl did not weep for her dead master and when she was told that the reason for her conduct was probably her ill-treatment by the dead master she stoutly protested and remarked that she had nursed him up from his childhood with great fondness but did not mourn his death because a dead man cannot be brought back to life by crying aloud just as an earthen pitcher once broken cannot be mended. In the Kaṭāhaka Jātaka³¹²⁷ we find the slave-girl's son petted and brought up along with the master's son and permitted to learn writing and handicrafts and was afterwards appointed as store-keeper by his master.

There was the other and darker side of the picture as well ; for, in the same Jātaka we find the slave saying to himself that if he remained as

³¹¹⁸ pp. 199 f.

³¹¹⁹ No. 382.

³¹²⁰ No. 421.

³¹²¹ No. 354.

³¹²² D. C. I., 208 f.

³¹²³ No. 131.

³¹²⁴ Nandadāsa Jātaka (No. 39).

³¹²⁵ Nānāchhanda Jātaka (No. 289).

³¹²⁶ No. 354.

³¹²⁷ No. 125.

storekeeper he would have to spend his life feeding on a slave's fare and at the slightest fault might get beaten, branded and imprisoned. Cases of ill-treatment of slaves were not altogether unknown. Anāthapiṇḍada's daughter-in-law used to illtreat and even beat her dāsa's and dāsi's.³¹²⁸ A slave girl Dhanapālī by name was put on hire to work for others and one day on her failure to earn any wages her master and mistress beat her severely after throwing her down at the gate of their house.³¹²⁹ The *Majjhima Nikāya*³¹³⁰ also gives us a painful instance of ill-treatment by the mistress of a house. A slave-girl named Kālī was never lazy but in order to find out whether her mistress's fame for gentleness and mildness was true or not rose one day late in the morning. At this her mistress merely questioned and frowned. On the second day she rose up late and was rebuked. On the third day she rose up still very late and was beaten on the head by her mistress. In the *Vimānavattu* commentary³¹³¹ we are told that once a slave-girl of a brahmin of Kōśala while going to fetch water saw the Buddha sitting at the foot of a tree. Desirous of earning religious merit and being careless whether the brahmin will beat her or kill her, she offered a pot of water to the Buddha who drank water from it. In order to increase her faith in him the Buddha by his miraculous power made the pitcher full every time its contents were taken by his disciples and returned the pitcher full of water to her. The Brahmin master heard all about it and was very angry with her and beat her to death. The *Vimānavattu* commentary³¹³² furnishes us with another pathetic picture of ill-treatment. A Brahmin disliked a slave-girl's daughter to whom she used to administer kicks and blows for no fault of hers. The fact was that at the time of Kāśyapa Buddha the girl had been the mistress and she used to beat her maid who was now born as the Brahmin lady and the situation was reversed. As the Brahmin mistress pulled the hair of her head the slave-girl's daughter had the hair of her head shaven by a barber. At this the enraged mistress tied her head with a rope and punished her and thus the girl came to be known as Rajjumālā. At last she went to a

³¹²⁸ *Sujātā Jātaka* (No. 269).

³¹²⁹ *Nāmasiddhika Jātaka* (No. 97).

³¹³⁰ I. 125 f.

³¹³¹ pp. 45—47.

³¹³² pp. 206—09.

forest to commit suicide unable any more to bear the rude treatment of her mistress. We also read of run away slaves in the Jātakas.³¹³³

(c) *Female Labourers*—Among the comparatively well-to-do classes the great majority of women were supported by father, husband or children and did not do much, if any, work beyond their household tasks. But among the poorer people the case was different and there are various records which refer to self-supporting women who were engaged in a trade or profession. The Jātakas, for example, refer to a free woman working as a maid-servant in a neighbour's house,³¹³⁴ as female astrologer (*mahaikakṣhaṇikā*),³¹³⁵ as water-carrier³¹³⁶ and a guard over cotton-fields³¹³⁷ where she used sometimes to spin fine thread from the clean cotton.³¹³⁸ Again it is said that a certain woman was the keeper of a paddy field and she gathered and parched the heads of rice.³¹³⁹ Women also appear to have been capable of functioning as keepers of burning grounds, though no mention is made of any wage they might have received.³¹⁴⁰ In the Dhammapada Commentary³¹⁴¹ we read of a woman acrobat: "One day (at Rājagṛha) a certain female tumbler climbed a pole, turned somersaults thereon, and balancing herself on the tip of the pole, danced and sang as she trod the air." The people "stood on bed piled on beds" to obtain a good view so that the tumbler earned "much gold and money."

A large number of women also earned their living by dancing and music³¹⁴² while the courtesans formed a far from negligible portion of the

³¹³³ Kaṭāhaka Jātaka (No. 125); Kalan-
duka (No. 127).

³¹³⁴ Serivāṇij (No. 3); Vāhya (No. 108);
Suvarṇahaṃsa (No. 136).

³¹³⁵ Asilakṣhaṇa Jātaka (No. 126).

³¹³⁶ Gangamāla Jātaka (No. 421);
Mahānāradaśyapa (No. 544).

³¹³⁷ Mahāunmārga Jātaka (No. 546).

³¹³⁸ Ibid.

³¹³⁹ Dhammapada Commentary on
verse 118.

³¹⁴⁰ Theragāthā Commentary on cxxxvi
Dhammapada Commentary on
verse 7—8.

³¹⁴¹ Dhammapada Commentary on verse
348.

³¹⁴² Majjhima Nikāya I. 504; Mahā-
vagga I. 7, 1, 2; Dialogues I. pp.
5 and 7; II. 170; Rhys Davids—
Buddhist Birth Stories, p. 171;
Dhammapada Commentary III.
pp. 166 and 297; Naccagīta-vādita
kusalā in Fausboll's Jātaka, II.,
p. 328; V. p. 249; Solasasu nāṭaki-
sahassesu in Ibid., I. p. 437;
Ibid., No. 263.

community, as is shown by the very ease with which they are used in similes.³¹⁴³ Some like Vimalā³¹⁴⁴ and Sirimā³¹⁴⁵ appear to have been prostitutes because their mothers were ; while among the Lichchhavis of Vaiśālī a handsome girl was considered a public property and she was required by usage to be brought up as an accomplished courtesan, having an easy access to the royal courts and pleasantries of aristocracy. The ganikās of this class felt their usefulness generally as trained agents for the satisfaction of the erotic sentiment of joy and the æsthetic enjoyment of life in its fullness and occasionally as spies in state service. Some of them were extremely wealthy. Mention is made of their ornaments³¹⁴⁶ and their serving maids.³¹⁴⁷ Sālavatī asked for a hundred pieces for one night ;³¹⁴⁸ Ambapālī asked for fifty kaṭṭapaṇas for one night ;³¹⁴⁹ while Kāmadhvajā Vāṇijagrāma was available for a thousand pieces and was granted the umbrella and yak-tail as the mark of royal favour.³¹⁵⁰ Kālī also used to get one thousand pieces for one night out of which five hundred were for the woman, five hundred were the price of the clothes, perfumes and garlands ; the men who visited that house received garments to clothe themselves in, and stayed the night there ; then on the next day they put off the garments they had received and put on those they had brought and went their ways.³¹⁵¹

Foreign trade—There was brisk trade in India at the time both inland and sea-borne. Dr. Fick considers navigation in the Jātakas as not on high seas but this view is long exploded. In fact sea voyages must have been not a rare occurrence as is shown by their use in similes. Thus in Śōnananda Jātaka³¹⁵² the eldest son is seen remarking “I shall bear the burden of maintaining my old parents, brothers and sisters just as a

³¹⁴³ Gapikā va vibhūsāyam, “like courtesans do they parade their gear” in Theragāthā, verse 939.

³¹⁴⁴ Therīgāthā, XXXIX.

³¹⁴⁵ Sutta Nipāta, Commentary I., 144.

³¹⁴⁶ Mahāunmārga Jātaka (No. 546).

³¹⁴⁷ Kaṇavera Jātaka (No. 318) ; Tarkārika (No. 481) ; Dhammapada Commentary on verse 3.

³¹⁴⁸ Mahāvagga, VIII., 1, 3.

³¹⁴⁹ Vinaya Texts, pt. II. p. 171.

³¹⁵⁰ Amulya Charan Sen—Social Life in Jaina Literature in the Calcutta Review for April, 1933, p. 84.

³¹⁵¹ Tarkārika Jātaka (No. 481).

³¹⁵² No. 532.

skilful navigator bears the burden of piloting a ship in an ocean (mahār-nava)". In Mahānārada-kāśyapa Jātaka³¹⁵³ we read : "Just as a merchant-ship if overloaded goes to the bottom of the sea, so does a man loaded with sin sink into hell." In the Vidurapaṇḍita Jātaka³¹⁵⁴ the king looks upon Vidura for help in difficult and anxious times just as shipwrecked pilots look upon an island in the breast of the ocean as their only refuge.

Nor is this all. The Sudhābhojana Jātaka³¹⁵⁵ thus describes the dangers and risks of maritime trade : "Desirous of wealth the merchant crosses the main in a vessel laden in merchandise ; but if perchance the ship founders he loses not only his goods but also his life ; and if through the grace of God his life is spared he is distressed by the loss of his merchandise. In the Chaturdvāra Jātaka³¹⁵⁶ a mother by way of dissuading her only son from resorting to maritime trade describes the dangers of a sea-voyage ; but the son did nevertheless embark on a maritime voyage and his miseries knew no bounds as his ship struck a hidden rock in mid-ocean. The Lośaka Jātaka³¹⁵⁷ describes the distress of mariners when their ship similarly struck a hidden rock in midocean. The Supāraga Jātaka³¹⁵⁸ describes the miseries that befell mariners in a ship which being attacked by a sea-gale tossed aimlessly through many seas for four months. The Samudravāṇij Jātaka³¹⁵⁹ narrates the story of a shipwrecked man who was forced to live in an island without any dress or shave till he was joined by the passengers of another wrecked ship. Many other Jātakas³¹⁶⁰ also furnish too vivid descriptions of the sufferings of mariners due to ship-wreck in mid-ocean to be regarded as mere fabrication.

The Nikāyas, too, speak of voyages out of sight of land referring probably to voyages across the seas and not mere coasting voyages. In the

³¹⁵³ No. 544.

³¹⁵⁴ No. 545. The Śaktubhastā Jātaka (No. 402) also refers to fishermen casting their net in high seas by way of a simile.

³¹⁵⁵ No. 535.

³¹⁵⁶ No. 439.

³¹⁵⁷ No. 41.

³¹⁵⁸ No. 463.

³¹⁵⁹ No. 466.

³¹⁶⁰ Śīlāniśaṃsa (No. 190) ; Vālāhaśva (No. 196) ; Dharmadhvaṇa (No. 384) ; Saṅkha (No. 442) ; Pāṇḍara (No. 518) ; Śopaka (No. 529).

Vinaya³¹⁶¹ we are told that in the time of Gotama a Hindu merchant Pūrṇa by name who had undertaken voyages on high seas for purposes of trade was going to the sea for the seventh time in the company of some Buddhists of Śrāvastī. Hearing the recitation of sacred texts by his Buddhist fellow-passengers on board the ship he acquired great veneration for Buddhism to which he became a convert on his return to Śrāvastī. Baudhāyana in his Dharmasūtras³¹⁶² while enumerating the condemned practices of the north, speaks of the custom of making sea-voyages among the northern Brahmins. One of the sūtras of Pāṇini³¹⁶³ also refers to trading with islands.

In fact, there was a very flourishing shipbuilding industry and large merchantile marines were built up. Thus the Samudravāṇij Jātaka³¹⁶⁴ mentions a ship which accommodated one thousand families of woodwrights who emigrated to an island over-sea. The Vālāhāśva Jātaka³¹⁶⁵ mentions a ship which contained 500 merchants. The Supārāga Jātaka³¹⁶⁶ mentions a sea-voyage undertaken by seven hundred merchants in a ship. The ship in which the prince of the Mahājanaka Jātaka³¹⁶⁷ sailed with other traders, had on board seven caravan with their beasts.³¹⁶⁸ The ship in which was rescued from a watery grave the philanthropic Brahmin of the Śankha Jātaka³¹⁶⁹ was 1120 cubits in length, 560 cubits in width and 140 cubits in depth. Again in the Mahāunmārga Jātaka³¹⁷⁰ the Great Being says "Ānandakumāra, take 300 wrights, go to the upper Ganges, procure choice timber, build 300 ships, make them cut stores of wood from the town, fill the ships with light wood and come back soon." The ships described in the Śilānīśamsa³¹⁷¹ and Śankha³¹⁷² Jātakas seem to have

³¹⁶¹ Quoted in the Journal of the American Oriental Society, Vol. I. p. 285.

³¹⁶² Ch. I.

³¹⁶³ *Dvaipyo vapik* in IV. 3. 10.

³¹⁶⁴ No. 466.

³¹⁶⁵ No. 196.

³¹⁶⁶ No. 463.

³¹⁶⁷ No. 539.

³¹⁶⁸ In the text we have "sattajangha-

satāni". It means three hundred and fifty men. The English translator takes the reading to be: 'sattajanghasatthāni' which means seven caravans and their beasts.

³¹⁶⁹ No. 442.

³¹⁷⁰ No. 546.

³¹⁷¹ No. 190.

³¹⁷² Vo. 442.

been large in size as they had three masts (kūpaka). Mrs. Rhys Davids³¹⁷³ rightly remarks "The vessels according to Jataka tales seem to have been constructed on a fairly large scale, for, we read of hundreds, embarking on them, merchants or emigrants. The numbers have, of course, no statistical value, but the current conceptions of shipping capacities are at least interesting".

There is enough circumstantial evidence to prove the existence of commercial intercourse with the peoples of western Asia. The Bāveru Jātaka³¹⁷⁴ refers to the export of peacocks by Indian merchants to Babylon. In the words of Professor Bühler "the story indicates that the Banias of western India undertook trading voyages to the shores of the Persian Gulf and of its rivers in the fifth perhaps in the sixth century B. C. just as in our days. This trade very probably existed already in much earlier times, for, the Jātakas contain several other stories, describing voyages to distant lands and perilous adventure by sea in which the vessels of the very ancient western ports of Suppāraka (Supara) and Bharukachebha (Broach) are occasionally mentioned". Again Dr. Bühler's discovery that a large number of letters of the Indian alphabet (Brāhmi) bear a close resemblance to certain letters on Assyrian weights and the presence of some of these on the Mesha inscriptions of the seventh and ninth centuries B. C., presupposes commercial intercourse between India and the regions in the neighbourhood of Sumer and Syria. According to Herodotus³¹⁷⁵ Babylon obtained precious stones and dogs from India.

In Ctesias' Indica (400 B. C.) we find the word karpion³¹⁷⁶ which Dr. Caldwell³¹⁷⁷ derives from the Tamil-Malayalan word karuppa or karppu, to which is akin the Sanskrit word karpūra, meaning camphor. Homer's kassiteros meaning tin is an exact echo of the Sanskrit kastira, meaning tin. These references to Indian goods in foreign literature coupled with the custom of making sea-voyages, prevalent among the northern Aryans, though condemned by Baudhāyana³¹⁷⁸ go to show that

³¹⁷³ Rapson — Cambridge History of India, Vol. I. p. 213.

³¹⁷⁴ No. 339.

³¹⁷⁵ I. 192 in McCrindle's Ancient India as described in Classical Literature.

³¹⁷⁶ Ctesias translated by McCrindle, p.29

³¹⁷⁷ A Comparative Grammar of the Dravidian Languages, p. 105.

³¹⁷⁸ Ch. I.

the people of N. W. India had some share in the trade between India and the western world by the Persian Gulf route.

In one of the Chinese legends of the lion-prince Simhala³¹⁷⁹ it is related how the boat in which the daughter of the Lion was cast away was driven by the winds westwards into the Persian Gulf where she landed and founded a colony in the country of western women. The tradition embodied in the Dvīpavaṃśa version of the legend³¹⁸⁰ makes her land on an island which was afterwards called the "kingdom of women." As the Reverend T. Foulkes³¹⁸¹ remarks "Underneath the legendary matter we may here trace the existence of a sea-route between India and the Persian coasts in the days of Buddha." As a matter of fact we find the Persian king Darius despatching in 516 B. C. an expedition under Skylax with orders to prove the feasibility of a sea-passage from the mouths of the Indus to Persia. "Skylax equipped a fleet on the upper waters of the Punjab rivers in the Gāndhāra country, made his way down to the coast, and in the thirteenth month reached the sea. Darius was thus enabled to annex the Indus valley and to send his fleet into the Indian Ocean."³¹⁸² This political intercourse must have led to maritime intercourse as well.

Nearer home trade relations existed with Ceylon and Burma. The Vāḷahāśva Jātaka³¹⁸³ speaks of voyages to Tāmrarparṇi dvīpa (Ceylon).³¹⁸⁴ The Mahājanaka Jataka³¹⁸⁵ speaks of a prince of Champā who having got together his stock-in-trade put on board a ship with some merchants bound for Suvarṇabhūmi (usually identified with Burma).³¹⁸⁶ The Suśroṇi Jātaka³¹⁸⁷ also mentions the voyage of certain merchants of Broach to Suvarṇabhūmi from which as also from the Śankha Jātaka³¹⁸⁸ it is evident that Burma was another commercial objective of Indian traders in those

³¹⁷⁹ Si-yu-ki, II. 246.

³¹⁸⁰ Ibid., XIII. 55

³¹⁸¹ Indian Antiquary, 1879.

³¹⁸² V. A. Smith—Oxford History of India, p. 45.

³¹⁸³ No. 196.

³¹⁸⁴ Tāmrarparṇi is also mentioned in the Mahāniddeśa.

³¹⁸⁵ No. 539.

³¹⁸⁶ Others identify Suvarṇabhūmi with the Golden Chersonese or the whole farther Indian coast.

³¹⁸⁷ No. 360.

³¹⁸⁸ No. 442.

The nature of the articles of foreign trade is not specified. The exports to Burma were (1) pearls³¹⁸⁹ (2) gems³¹⁹⁰ and (3) diamonds³¹⁹¹ and to Babylon (1) peacocks³¹⁹² (2) precious stones³¹⁹³ and (3) dogs.³¹⁹⁴ According to Professor Rhys Davids "silk, muslins, the finer sorts of cloth, cutlery, armour, brocades, embroideries and rugs, perfumes and drugs, ivory and ivory-work, jewellery and gold—these were the main articles in which the merchants dealt."³¹⁹⁵

The ports of departure were :—(1) Bhṛgukachchha³¹⁹⁶ (2) Dantapur on the Kalinga coast³¹⁹⁷ (3) Dvārīvati³¹⁹⁸ (4) Gambhīrapattana³¹⁹⁹ (5) Karamvikapattana³²⁰⁰ (6) Raurava³²⁰¹ (= Roruka³²⁰²) and (7) Suppāraka.³²⁰³

At sea the vessels were in charge of pilots (niyāmaka)³²⁰⁴ who noted the directions by marking the position of the Sun by day and of the stars by night.³²⁰⁵ In a cloudy day when it was difficult to find out the directions in which the vessel was steering, crows were let loose. The direction to which crows went, the mariners thought, land lay that way. Such tame crows were called for this reason *diśā-kāka*.³²⁰⁶ Such use of birds to guide the pilots is also referred to in the Kevaddha Sutta and the Anguttara Nikāya.³²⁰⁷

Domestic trade :—Trade between distant parts of the country was in the hands of merchants who led great caravans consisting of bullock-carts

³¹⁸⁹ Mahājanaka Jātaka (No. 539)

³¹⁹⁰ Ibid.

³¹⁹¹ Ibid

³¹⁹² Bāveru Jātaka (No. 339)

³¹⁹³ Herodotus I. 192 in McCrindle's
Ancient India as described in
Classical Literature.

³¹⁹⁴ Ibid.

³¹⁹⁵ Buddhist India, p. 98.

³¹⁹⁶ Suśroṇi (No. 360); Supāraga (No. 463).

³¹⁹⁷ Kurudharma (No. 276); Khullakalinga
(No. 301); Kumbhakāra (No. 408);
Kalingabodhi (No. 479); Digha
Nikāya XIX. 86.

³¹⁹⁸ Ghaṭa Jātaka (No. 454); Mahā-
unnārga (No. 546).

³¹⁹⁹ Lośaka Jātaka (No. 41).

³²⁰⁰ Pāṇḍara Jātaka (No. 518).

³²⁰¹ Ādipta Jātaka (No. 424)

³²⁰² Digha Nikāya XIX. 86.

³²⁰³ Rhys Davids—Buddhist India, p. 31.

³²⁰⁴ Supāraga Jātaka (No. 463).

³²⁰⁵ Vappupatha Jātaka (No. 2).

³²⁰⁶ Bāveru Jātaka (No. 339); Dharma-
dhvaja (No. 384)

³²⁰⁷ III. p. 368

laden in merchandise attended by owners and guarded by followers.³²⁰⁸ The Jātakas furnish us with a graphic account of the difficulties of these merchants. The robbers often looted the caravans.³²⁰⁹ Accordingly the merchants sacrificed cocks for pleasing the lord of the pathway. Such cocks were called panthasākuna.³²¹⁰ They also offered animals to gods for their success in sale.³²¹¹ Moreover, they combined for the purpose of a long journey, elected one among them as their leader and appointed caravan-guards for the safety of their goods.³²¹² Occasionally they had to cross deserts and on such occasions they travelled in the night and took rest in day time.³²¹³ They carried drinking water, oil, rice, fuel etc., with them.³²¹⁴ At sunset they unyoked the oxen, kept the carts in a circular form and in the middle erected their tent and took meals and rest. At sunrise they took their meals and started on their journey.³²¹⁵ Sometimes they engaged a guide (sthala-niyānaka) who kept the right route by observing the position of the planets and the stars.³²¹⁶ When they had to cross the forest infested with robbers etc., they engaged in addition the services of forest-guards (ṣṭavyārakṣhika).³²¹⁷ In the Mahāniddeśa commentary the difficulties of caravans crossing the deserts or moving through narrow paths or paths infested by wild tribes and animals are figuratively described as Ajapatha (goat-track), Vaṇṇupatha, Muṣikapatha (rat-track), Verapatha (enemy track) or as Maraṇapāra (region beyond death).

As to inland routes followed by these merchants we find (1) Punna, a merchant of Suppāraka trading with northern Kośala; while (2) Anāthapiṇḍada's caravans travelled from Śrīvastī to Rājagṛha³²¹⁸ and back and also to the borders.³²¹⁹ "It is curious" remarks Prof. Rhys Davids "that the route between these two ancient cities was not direct; it was along the foot of the mountains to a point north of Vaiśālī and only then turning south to

³²⁰⁸ Apañṇaka Jātaka (No. 1.); Vaṇṇupatha (No. 2) Guptila (No. 243); Gāndhāra (No. 406) etc.
³²⁰⁹ Śaktigulma Jātaka (No. 503).
³²¹⁰ Viśwantara Jātaka (No. 517).
³²¹¹ Ayāchitabhakṭa Jātaka (No. 17).
³²¹² Daśabrāhmaṇa Jātaka (No. 495).
³²¹³ Vaṇṇupatha Jātaka (No. 2).

³²¹⁴ Apañṇaka Jātaka (No. 1); Vaṇṇupatha (No. 2).
³²¹⁵ Apañṇaka Jātaka (No. 1).
³²¹⁶ Vaṇṇupatha Jātaka (No. 2).
³²¹⁷ Kṣhurapra Jātaka (No. 265).
³²¹⁸ Jātaka I. 92, 348.
³²¹⁹ Jātaka I. 377f.

the Ganges. By taking this circuitous road the rivers were crossed at places close to the hills where the fords were more easy to cross. But political considerations may also have had their weight in the original choice of their route, still followed when they were no longer of much weight. The stopping places were, beginning at Śrāvastī, Setavya, Kapilāvastu, Kusinārā, Hattigāma, Bhaṇḍagāma, Vaiśālī, Pāṭaliputra and Nālandā. The road probably went to Gayā and there met another route from the coast, possibly at Tāmralipti to Benares." (3) Another route from Śrāvastī to Paṭiṭṭhāna with six halting places—Māhissati, Ujjainī, Gonaddha, Vedisa, Kauśāmvī and Sāketa—is described in the Sutta Nipāta.³²²⁰ (4) From east to west the main route was along the great rivers, along which boats plied for hire. The Jātakas unmistakably suggest that the Ganges was navigable by crafts of considerable size. Thus the merchant of Chullaśreṣṭhi Jātaka³²²¹ brings his ship right up to Benares; a sea-fairy as helmsman brings passengers for India by ships from off the sea to Benares³²²²; the defaulting wood-wrights of the Samudravāṇija Jātaka³²²³ sail along the Ganges from Benares to a distant island on the sea; Prince Mahājanaka sets out for Suyarṇabhūmi from Champā³²²⁴; and Mahindra travels by water from Pāṭaliputra to Tāmralipti and on to Ceylon.³²²⁵ Sometimes the crafts would go up the Ganges upto Sahajāti³²²⁶ and along the Jumna upto Kauśāmvī³²²⁷ where also came (as we have already seen) the traffic from the south. Further westward the journey would again be by land to Sind whence come large imports in horses and asses³²²⁸ and to Sovira.³²²⁹ Northward lay the great route connecting India with central and western Asia by way of Taxila near modern Rawalpindi and probably also by way of Sagala in the Punjab. That this route was safe is evident from the fact that students (sometimes with 1000 Kaṭṭapaṇas as advance tuition fee in their pockets) went unarmed to be educated at Taxila.³²³⁰

³²²⁰ Verses 1011—13.

³²²¹ No. 4.

³²²² Śīlānīṣamsa Jātaka (No. 190)

³²²³ No. 466.

³²²⁴ Mahājanaka Jātaka (No. 539).

³²²⁵ Vinaya III. 338.

³²²⁶ Identified with the ruins now existing at Bhlā, about eight miles

from Allahabad—Early History of Kauśāmvī by N. N. Ghosh, p. 8 and fn.

³²²⁷ Vinaya I. 81; III. 401, 382.

³²²⁸ Jātaka I 124, 178, 181; II. 31, 237.

³²²⁹ Vimānavattu Commentary, 336.

³²³⁰ Jātaka II. 277.

The interchange of commodities of various localities must have been considerable during this period. For, the products of industries which came to be localised in a particular place attained a reputation all their own and were, therefore, much prized abroad. Such were the scents, ivory-products, cotton and silk fabrics of Benares, the blankets of Gāndhāra, the cloth of Śivi country, the linen of Kautumvara, the horses of Sind, the mules of Kamvoja and the swords of Daśārṇaka.

Besides the big caravan-traders³²³¹ we also notice the hawker (kaḥ-chhapuṭavāṇijo) and the small traders who used to carry their goods from one village to another on the backs of asses³²³² or on their own heads.³²³³ Again some of the merchants specialised in the trade of single commodities. Of such the Jātakas refer to cloth-merchants,³²³⁴ grain merchants³²³⁵ and incense merchants³²³⁶ while Pāṇinī³²³⁷ refers to salt merchants and spice merchants.

As to local trade both retail and wholesale, foodstuffs for the towns were apparently brought to the gates while workshop and bazar occupied their special streets within.³²³⁸ Thus there was a fish-monger's village at a gate of Śrāvastī.³²³⁹ Greengrocery is sold at the four gates of Uttara-Pāñchāla³²⁴⁰ and venison at the crossroads outside Benares.³²⁴¹ Arrows, carriages and other articles for sale were displayed in the āpaṇa³²⁴² or it might be stored up in the antarāpaṇa.³²⁴³ There were taverns for the sale of liquors³²⁴⁴ as also hotels for the sale of cooked meat and rice.³²⁴⁵

The act of exchange between producer and consumer or between either and a middleman was a free bargain,³²⁴⁶ leading sometimes to

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| Serivāṇij Jātaka (No. 3). | ³²⁴⁰ Jātaka IV. 445. |
| ³²³² Siṃhacarṃa Jātaka (No. 189). | ³²⁴¹ Jātaka III. 49 ; cf. M. I. 58 ; III. 91. |
| ³²³³ Garga Jātaka (No. 155). | ³²⁴² Jātaka II. 267 ; IV. 488 ; Vinaya |
| ³²³⁴ Vidurapāṇḍita Jātaka (No. 545). | IV. 248. |
| ³²³⁵ Ahitapāṇḍita Jātaka (No. 365). | ³²⁴³ Jātaka I. 55, 350 ; III. 406. |
| ³²³⁶ Andhabhūta Jātaka (No. 62). | ³²⁴⁴ Jātaka I. 251 f ; 268 f ; VI. 328 ; |
| Lāvāpika, saḷāluka in Pāṇinī IV. 4 | Vinaya II. 267 ; IV. 248, 249 ; cf. |
| 51—54. | Dhammapada commentary, III. 66. |
| ³²³⁸ Rhys Davids—Buddhist India, p 76. | ³²⁴⁵ Vinaya I. 20 ; II. 267 ; D. 22. |
| Psalms of the Brethern, 166 ; cf. | ³²⁴⁶ Jātaka I. 111 f ; 195 ; II. 222, 289, |
| Jātaka I. 361. | 424 f. ; III. 282 f. |

adulteration³²⁴⁷ and the use of false weights.³²⁴⁸ We notice not only local 'cornering' in hay³²⁴⁹ but also the dealer's sense of the wear and tear of articles³²⁵⁰ and a case of that more developed competition called 'dealing in futures'.³²⁵¹ Again in the Apañṇaka Jātaka³²⁵² two traders agree who shall start first. The one thinks that if he arrive first he will get a better, because a non-competitive price; the other also holding that 'competition is killing work' prefers to sell at the price fixed by his predecessor and yields him a start. But though free competition was the rule, custom may well have fixed price to a great extent. The expression "my wife is sometimes as meek as a 100 piece slave-girl"³²⁵³ reveals a customary price. Moreover, for the royal household prices were fixed by the court-valuer without appeal.³²⁵⁴

The trade of the traders may well have been largely hereditary³²⁵⁵; but their organisations do not seem to have attained the same development as the craft-guilds. The reason seems to have been that the merchant was necessarily a wanderer while industrial organisation in these olden days depended largely upon settled relations and ties of neighbourhood. A Hansa League, for instance, can only grow in highly developed markets and seaports. Nevertheless, there is some significant evidence of corporate concerted action among the merchants. Thus the Chullakāśreṭṭhi Jātaka³²⁵⁶ mentions hundred or so merchants offering to buy up a newly arrived ship's cargo. Five hundred traders were fellow-passengers on board the ill-fated ships mentioned in the Vālāhāśva³²⁵⁷ and Pāṇḍara³²⁵⁸ Jātakas; seven hundred others were lucky enough to obtain the services of Supārāga as their pilot,³²⁵⁹ thus showing co-operative chartering of the same vessel. Again caravan traders had a common chief³²⁶⁰ who was to

³²⁴⁷ Nemi Jātaka (No. 541).

³²⁴⁸ Ibid.

³²⁴⁹ Chullakāśreṭṭhi Jātaka (No. 4).

³²⁵⁰ Apañṇaka (No. 1) = Jātaka I. 99.

³²⁵¹ Chullakāśreṭṭhi (No. 4) = Jātaka I. 121 f.

³²⁵² No. 1.

³²⁵³ Nanda (No. 39); Durājāna (No. 64).

³²⁵⁴ Taṇḍulanālī (No. 5); Sulānu (No.

158); Nemi (No. 541); Psalms of the Brethern, 25, 212.

³²⁵⁵ Jātaka II, 287; III. 198.

³²⁵⁶ No. 4.

³²⁵⁷ No. 196.

³²⁵⁸ No. 518.

³²⁵⁹ Supārāga Jātaka (No. 463).

³²⁶⁰ Mahāvāpij Jātaka (No. 493).

give directions as to halts, waterings, precautions against robbers and in many cases as to routes, fords etc.³²⁶¹

Further, several partnerships are mentioned, e. g., in the deal in birds exported from India to Babylon³²⁶² and in horses imported from the north to Benares.³²⁶³ We also notice the partnership of traders of Śrāvastī who carried on joint business and set out with five hundred cart-loads of merchandise,³²⁶⁴ of two other traders of Śrāvastī who started joint business with five hundred cart-loads of merchandise,³²⁶⁵ of two merchants of Benares who took five hundred waggons of merchandise from Benares to the country districts with an equal interest of both in the stock-in-trade and in the oxen and waggons.³²⁶⁶

A concerted commercial enterprise on a more extensive scale appears in the Jarudapāna Jātaka³²⁶⁷ where some traders of Śrāvastī carried on joint business and came upon rich finds of minerals of all sorts from iron to lapislazuli which they stowed away to a common treasure-house, giving food to the brotherhood on joint account.

Methods and media of exchange—Barter was not uncommon in this period. Its continuance was due to the ease with which ordinary people could exchange their goods readily. Brahmīns who were not allowed to trade in articles of agricultural production were permitted to barter home-grown corn, food etc.³²⁶⁸ Barter was also prescribed for the Saṃgha in certain cases³²⁶⁹ to whom the use of money was forbidden.³²⁷⁰ Barter also emerged in certain contingencies e. g., when a potter buys fuel for 16 kahāpaṇas and a few pots,³²⁷¹ when among humble folk a dog is bought for a kahāpaṇa and a cloak³²⁷² or when a wanderer obtains a meal

³²⁶¹ Apinṇaka (No. 1); Vappupatha (No. 2); Jarudapāna (No. 256).

³²⁶² Bāveru Jātaka (No. 339).

³²⁶³ Suhanu Jātaka (No. 158).

³²⁶⁴ Mahāvāpij Jātaka (No. 493).

³²⁶⁵ Kūṭavāpija Jātaka (No. 98).

³²⁶⁶ Ibid (Pratyutpannavastu).

³²⁶⁷ Jarudapāna Jātaka (No. 256).

³²⁶⁸ Vaśiṣṭha II. 37—39; Gautama VII. 16 f; Āpasthamva I, 20. 9. 6.

³²⁶⁹ Vinaya II. 174.

³²⁷⁰ Vinaya II. 294 f; III. 237; Pātimokkha V. 18; V. 19.

³²⁷¹ Chullakāśreṣṭhi Jātaka (No. 4).

³²⁷² Sunaka Jātaka (No. 242).

from a woodlander for a gold pin.³²⁷³ From the Sūtras of Pāṇini³²⁷⁴ we have a large number of words which prove the existence of barter in his time. Thus we have *saurpa*, anything purchased with sūrpa; *vāsanam*, anything purchased with vasana; *maudgika*, anything purchased with the exchange of mudga and so on.

Rice³²⁷⁵ and cowry-shell (sippikā)³²⁷⁶ were still standards of value when the Jātakas were composed. From Pāṇini³²⁷⁷ we find that go-puchchha or bovine tail also acted as a medium of exchange. A more common standard of value was, however, the cow. Thus in illustration of Pāṇini's sūtra "*Taddhitārthottara-pada-samāhāre ca*"³²⁷⁸ we have the word pañcagu which means anything bought in exchange for five cows. Similarly in the Dharmasūtras we find that all fines for murder are reckoned in cows.³²⁷⁹

But for the ordinary mechanism of exchange the value of every marketable commodity was stated in figures of a certain metallic medium of exchange. From the evidences furnished by the literature of this period we find the use of the following metallic media of exchange:—
(1) kākāṇika³²⁸⁰ (2) ardhamāṣaka³²⁸¹ (3) māṣaka³²⁸² (4) quarter kārṣa³²⁸³ (5) half-kārṣa³²⁸⁴ (6) kārṣapaṇa³²⁸⁵ (7) pāda³²⁸⁶ (8) paṇa³²⁸⁷

Jātaka VL 519.

³²⁷⁴ Sūrpād aṇṇ anyataraṣyām—Pāṇini V. 1. 26; Satamānaviṇṣatika-sahasra-vasanādaḥ—Pāṇini V. 1. 27; Tena Kṛitam—Pāṇini V. 1. 27.

Tapdulanāli Jātaka (No. 5).

³²⁷⁶ Śīgāla Jātaka (No. 113).

³²⁷⁷ Ārhat-gopuchchha-samkhyā-parimānād ṭhak—V. 1. 19; cf. Pāṇini IV. 4. 6.

³²⁷⁸ II 1. 51.

Āpasthamva I. 21. 1—3; Baudhāyana I. 10. 21—22.

³²⁸⁰ Chullakāśreṣṭhi Jātaka (No. 4). Kākāṇika = $\frac{1}{4}$ th māṣaka (R. Śyāma Śāstrī's Eng. Trans. of Kauṭilya's Arthasāstra, p. 98 fn. 6).

³²⁸¹ Mahāunmārga Jātaka (No. 546).

Illisa Jātaka (No. 7); Matsyadāna Jātaka (No. 288); cf. Suvarpa māṣaka in Udayabhadra (No. 458) and Śankhapāla (No. 524) Jātakas.

³²⁸³ Gangāmāla Jātaka (No. 421).

³²⁸⁴ Ibid; Mahāswapna (No. 77).

³²⁸⁵ Chullakāśreṣṭhi Jātaka (No. 4); Kṛṣṇa (No. 29); Nanda (No. 39); Durājāna (No. 64); Śilāmimāṃsā (No. 86); Ubhatobharaṣṭa (No. 139); Grāmaṇicapaṇa (No. 257); Supārāga (No. 463); Mahāunmārga (No. 546); Mahāswapna (No. 77); Pāṇini V. 1. 29.

Pāṇini, V. 1. 34; V. 2. 119.

³²⁸⁷ Ibid.

- (9) śatamāna³²⁸⁸ (10) niṣka³²⁸⁹ (11) suvarṇa³²⁹⁰ (12) hiraṇya³²⁹¹
 (13) kampa³²⁹² and (14) vista.³²⁹³

Some of these were made of gold and silver, others of copper or base metal. With the single exception of vista which is hardly mentioned in later literature all of these were circulating media of exchange in later periods as well. According to Dr. Goldstucker³²⁹⁴ some of these even bore stamped impressions on them ; and in support of his contention he quotes the following sūtra of Pāṇini : *Rupādāhata prasamsayoryap.*³²⁹⁵ Here we get the rule for the addition of the suffix yap on the word rūpa to designate both a coin bearing impressions, and a man of fine appearance. Āhata has been explained by the Kāśikā commentary, as bearing impression by stamping : “*Nighātina—tādanādinā, Dīnārādiṣu rūpam vadutpadyate tadāhatamucyate.*” The Pātimokkha³²⁹⁶ also refers to this practice of stamping impressions on coins which therefore came to be known as rūpyas (or rupiyos in Prakṛt dialects.)

It is worthy of note that most of the names of these media of exchange refer to a certain weight of metal they contained. For example, kārṣāpaṇa contained one karṣa in weight of the metal of which it was composed and was, therefore, called kārṣāpaṇa. On the basis of the weight in metal the medium of exchange contained two systems of currency arose. The older one reckoned the weight at 100 kṛṣṇalas while the newer one that arose in this period reckoned the weight at 80 kṛṣṇalas. Following Manu³²⁹⁷ we get the following table of weights on which the newer standard was based :—

³²⁸⁸ Ibid., V. 1. 27 ; Kātyāyana Śrauta Sūtra XV. 181 and 182.

³²⁸⁹ Pāṇini, V. 1. 30 ; Dyūta Jātaka (No. 478) ; Kuśa (No. 531) ; Viśwantaṛa (No. 547).

³²⁹⁰ Vinaya III. 219 ; Illisa Jātaka (No. 78).

³²⁹¹ Vinaya III. 219 ; cf. Pāṇini V. 2. 65 ; V. 2. 55.

³²⁹² Pāṇini V. 1. 25.

³²⁹³ Ibid., V. 1. 31.

³²⁹⁴ Numismata Orientalia, p. 39, fn. 3.

³²⁹⁵ Pāṇini V. 2. 120

³²⁹⁶ V. 18 ; V. 19.

³²⁹⁷ VIII. 134—37.

For gold :

5 kṛṣṇalas or	
5 guñjaberry seeds or	
5 ratis make	1 Māṣaka
4 māṣakas make	1 Pāda
4 pādas or	
80 kṛṣṇalas i. e.,	
80 guñjaberry seeds i. e.,	
80 ratis make	1 Karṣa
1 karṣa makes	1 Suvarṇa
4 suvarṇas make	1 Pala
1 pala makes	1 Niṣka

For silver :

2 ratis make	1 Māṣaka
16 māṣakas make	1 Dharāṇa

According to Kauṭilya³²⁹⁸ 1 silver māṣaka was 88 white mustard seeds (*gaura sarṣapa*) in weight. Now 18 white mustard seeds are equal in weight to one kṛṣṇala or guñjaberry seed ; so that a silver dharāṇa will be equal to $\frac{16 \times 88}{18} = 78\frac{2}{9}$ kṛṣṇalas. Hence a dharāṇa was equal in weight ($78\frac{2}{9}$ kṛṣṇalas) to one Suvarṇa or 1 Karṣa (80 kṛṣṇalas)

For Copper :

Five ratis make	1 Māṣaka
4 māṣakas make	1 Pāda
4 pādas or 80 ratis make	1 Karṣa.

The older Śatamāna standard still continued in some localities. From the Vinaya Piṭaka³²⁹⁹ we learn that in Rājagṛha in the time of Ajātaśatru or Vimbisāra one pāda was equal to five māṣakas so that in that locality the kārṣāṇa was equal in weight to 5×20 or 100 ratis (as against 4×20 or 80 ratis under the new standard). We have seen that according to the new standard four suvarṇas make one niṣka but according to the evidence of old Pāli literature³³⁰⁰ five suvarṇas make one niṣka so that

³²⁹⁸ Arthaśāstra, Bk. II, ch. 19.

³²⁹⁹ III, 45.

³³⁰⁰ Childers — Pali Dictionary, s. v. Nikkha.

like the pāda of the Vinaya Piṭaka the niṣka was also based on the older Śatamāna standard.

We have at present very little evidence at our disposal to enable us to find out as to whether gold or silver was the accepted standard of currency. Both the standards seem to have existed side by side. As to the relative value of gold and silver in this period we are absolutely in the dark. According to Dr. Prāṇanātha³³⁰¹ "A careful study of the fines prescribed in the Arthaśāstra of Kauṭilya may possibly afford a clue to the value of gold and silver. In assessing fines the value of any stolen article was taken into consideration. According to Kauṭilya the fine should be ten times the value of the stolen article.....Kauṭilya in section 76 assessed the fines payable for the theft of one māsaka of gold and silver as 200 and 12 copper paṇas respectively. If these fines represent twelve times the value of the stolen article, then the value of the gold and silver pieces, each weighing 1 māsaka comes to 16.6 and 1 copper paṇa respectively." On the basis of a very reliable evidence furnished by a second century inscription Dr. D. R. Bhāṇḍārakāra³³⁰² has found out the ratio between gold and silver as 11.1 to 1.

Instruments of credit :—Though as yet we have no evidence to prove the existence of collective banking, instruments of credit were not altogether unknown, for, in the Jātakas we read of signet rings being used by merchants as deposit or security (satyankāra = Pāli satyakāra)³³⁰³ and of I. O. U. 's (iṇṇapannani³³⁰⁴ or likhita³³⁰⁵).

Weights and measures :—The tulā (scales) mentioned in the White Yajurveda³³⁰⁶ was in general use in this period as is evident from its use in similes.³³⁰⁷ Besides udanka (= Pāli ulunka)³³⁰⁸ a liquid measure (for water) we find the use of the following weights and measures in this

³³⁰¹ A Study in the Economic condition of Ancient India, pp. 86-87.

³³⁰² Ancient Indian Numismatics.

³³⁰³ Chullakaśreṣṭhi Jātaka (No. 4)

³³⁰⁴ Khadirāṅgāra (No. 49); Ruru (No. 482).

³³⁰⁵ Vasiṣṭha, XVI. 10.

³³⁰⁶ XXX. 17.

³³⁰⁷ Kukkura Jātaka (No. 22); Mahānārada Kāśyapa (No. 544).

³³⁰⁸ Kuṇḍakapūpa Jātaka (No. 109).

period³³⁰⁹ :—(1) māṣa³³¹⁰ (2) nālikā³³¹¹ (3) āḍhaka³³¹² (4) māna³³¹³ and (5) droṇa.³³¹⁴

Purchasing power of money—the Jātakas furnish us with the daily earnings of some classes of labourers in money and with the purchasing power of money. But unfortunately it is difficult to find out whether the unit of money was of silver or copper. Moreover, the Jātakas contain not only exaggerations but also imaginary colourings of facts and as such on their evidence scientific calculations cannot be based. Nevertheless if we make due allowance for all such exaggerations the evidences furnished by them may throw a flood of light on the wealth and welfare of the people of those days. Thus the fee paid to a barber was eight kārṣāpanas, presumably of copper.³³¹⁵ The fee of a high class courtesan was 1000 kārṣāpanas per night.³³¹⁶ One thousand kārṣāpanas were the usual tuition fee paid in advance to the ācārya.³³¹⁷ Poorer students must have paid lower fees as they had to collect them by begging. In the Dyūta Jātaka³³¹⁸ a student after completing his education managed to collect only seven niṣkas which however, he lost on the way by a boat-accident. He then resorted to hunger-strike and obtained thereby from the king 14 niṣkas which he paid to his teacher. From the Gangāmāla Jātaka³³¹⁹ we find that a male

³³⁰⁹ An idea of these weights and measures may be obtained from the following tables based on later authorities :—

(a) According to Kauṭilya (Arthaśāstra Bk. II. ch. XIX) :—

10 seeds of māṣa (Phaseolus Radiatus) or	
5 guñjaberries make	1 Suvarṇamāṣa
16 suvarṇamāṣas make	1 suvarṇa
	or karṣha
4 kārṣhas make	1 Pala

(b) According to Śārangadhara Saṃhitā (pp. 10 — 13) :—

5 × 16 × 4 = 320 guñjaberries make	1 Pala
4 palas make	1 Kuḍava
4 kuḍavas make	1 Prastha
1 prastha makes	1 Nālikā
4 nālikās make	1 Āḍhaka

2 āḍhaka make	1 Māna
2 mānas or	
4 āḍhakas make	1 Droṇa

³³¹⁰ Pāṇini V. 1. 53

³³¹¹ Tapdalanāli (No. 5) ; Vārūṇi (No. 47) ;
Sālitaka (No. 107).

³³¹² Asampradāna Jātaka (No. 131) ;
Pāṇini V. 1. 53.

³³¹³ Asampradāna Jātaka (No. 131).

³³¹⁴ Vikarṇaka Jātaka (No. 232)

³³¹⁵ Supāraka Jataka (No. 463)

³³¹⁶ Kapavera (No. 318) ; Sulasā (No. 419) ;
Tarkārika (No. 481).

³³¹⁷ Susīma (No. 163) ; Tilamuṣṭhi
(No. 252).

³³¹⁸ No. 478.

³³¹⁹ No. 421.

and a female water-carrier used to earn half a māṣaka each per day, while from the Viṣahya Jātaka³³²⁰ we learn that a śreṣṭhī, being reduced to bankruptcy took to the work of a grass-cutter and earned two māṣakas a day out of which he intended to give away one māṣaka, keeping the other for himself, which he thought would fetch sufficient food for him and his wife for one day. In the Sutanu Jātaka³³²¹ a day labourer is described as earning one-half to one māṣaka a day with which he somehow maintained himself and his mother. Even if the māṣaka referred to in the above three Jātakas be a silver one it is apparent that the prices of necessities of life must have been very cheap so that one-half māṣaka of silver was sufficient for one man for one whole day.

In fact the purchasing power of money was high. A big Rohita fish was worth seven māṣakas.³³²² Half a māṣaka of meat was sufficient for one lizard.³³²³ A small quantity of clarified butter or oil could be had for a copper kārṣāpaṇa.³³²⁴ A cup of surā was worth one copper kārṣāpaṇa.³³²⁵ Six kārṣas (kārṣāpaṇas ?) would buy coarse clothing for a monk and ten kārṣas for a nun.³³²⁶ In the Bhikkhuṇī Pātimokkha two kārṣas and a half and four kārṣas are set down respectively as the price of small and big covering pieces for nuns. A pair of ox would cost 24 kārṣāpaṇas.³³²⁷ Eight kārṣāpaṇas could buy a decent ass.³³²⁸ A young calf was sufficient as house-rent (nivāsa-vetana) for a certain period.³³²⁹ Hire for an ox used in carrying a cart across a shallow river was two kārṣāpaṇas.³³³⁰ Cart-hire from Benares city to the pattana (port) near by was eight kārṣāpaṇas.³³³¹ The price of a slave was 100 kārṣāpaṇas, presumably of silver.³³³² The price of slaves, however, varied with their accomplish-

³³²⁰ No. 340.

³³²¹ No. 398.

³³²² Matsyadāna Jātaka (No. 288)

³³²³ Mahāunmārga Jātaka (No. 546).

³³²⁴ Vinaya IV. 248-50

³³²⁵ Illisa Jātaka (No. 78)

³³²⁶ Pātimokkha.

³³²⁷ Kṛṣṇa (No. 29) ; Grāmaṇīchapda (No. 257).

³³²⁸ Mahāunmārga Jātaka (No. 546).

³³²⁹ Kṛṣṇa Jātaka (No. 29).

³³³⁰ Ibid.

³³³¹ Chullakaśreṣṭhī Jātaka (No. 4).

³³³² Nanda (No. 39) : Durājāna (No. 64) ; In the Viśwantara Jātaka (No. 547) Amitratāpaṇā was given in lieu of 100 kārṣāpaṇas kept as deposit with her father who spent it away.

ments, good birth or (if a woman) beauty as is evident from the Śaktu-bhastā³³³³ and Viśwantara³³³⁴ Jātakas.

Certain articles, however, were noted for their high price. Kapotikā wine was very dear.³³³⁵ Strong drink was exchanged for gold and silver pieces.³³³⁶ A gold necklace worth a thousand pieces presumably of silver³³³⁷ and sātakas worth a thousand pieces presumably of copper³³³⁸ are referred to. Essence of sandalwood,³³³⁹ woolen blankets³³⁴⁰ and Benares fabrics each worth a lac pieces presumably of copper³³⁴¹ are also mentioned.

Progress of capitalism :—(a) Hoarding—With the growth of trade and commerce and development of town-life luxury invaded society, gambling and want of thrift reduced many families to poverty and much of this wealth passed into other hands. Ordinary people hoarded their wealth either under the ground³³⁴² or deposited it with a friend.³³⁴³ Rich people kept a register of the nature and amount of the wealth thus hoarded on inscribed plates of gold or copper.³³⁴⁴

(b) Usury—Nevertheless money was lent on interest. There is a tolerant tone concerning the moneylender in the Rohantamga Jātaka³³⁴⁵ where moneylending together with tillage, trade and harvesting are called four honest callings. Gautama³³⁴⁶ is equally tolerant ; though Vasiṣṭha³³⁴⁷ and Baudhīyana³³⁴⁸ condemn it. Hypocritical ascetics are accused of practising it.³³⁴⁹ In Pāṇini's sūtras³³⁵⁰ we find the words Dvaiguṇika, Traiguṇika and Daśaikaḍaśika which go to prove the exorbitant rates of interest exacted

³³³³ No. 402.

³³³⁴ No. 547 (case of Prince Viśwantara and his sister).

³³³⁵ Surāpāna Jātaka (No. 81).

³³³⁶ Vāruṇi Jātaka (No. 47).

³³³⁷ Kurudharma Jātaka (No. 276).

³³³⁸ Utsanga (No. 67) ; Guṇa (No. 157) ; Therīgāthā, ch. XIV.

³³³⁹ Kurudharma (No. 276) ; cf. Sandalwood worth 1 lac pieces in Mahāsvapna (No. 77).

³³⁴⁰ Viśwantara Jātaka (No. 547).

³³⁴¹ Mahāśvāroha Jātaka (No. 302) ; Mahā-unmārga (No. 546).

³³⁴² Jāt. I. 225, 235f., 424 ; II. 308 ; III. 24, 116.

³³⁴³ Jāt. VI. 521 ; Vin. III. 237.

³³⁴⁴ Jāt. IV. 7, 488 ; VI. 29 ; cf. IV. 237.

³³⁴⁵ No. 501.

³³⁴⁶ X. 6 ; XI. 21.

³³⁴⁷ II. 41, 42.

³³⁴⁸ I. 5. 10.

³³⁴⁹ Mahākṛṣṇa Jātaka (No. 469)

³³⁵⁰ IV. 4. 30 ; IV. 4. 31 ; V. 1. 47.

by some of the moneylenders of those days. Debtors were often reduced to slavery for non-payment of debts. Thus in the *Therīgāthā* *Isidāsi*, a nun narrates the story of her reduction to slavery in one of her previous births on account of her father's debts.³³⁵¹ Moreover, debtors were not allowed to enter the Buddhist Order.³³⁵² On the other hand the usurers seem to have organised themselves into guilds having customary laws governing their transactions.³³⁵³ *Vaśiṣṭha*³³⁵⁴ and *Gautama*³³⁵⁵ name six different kinds of interest viz., compound, periodical, stipulated, corporal, daily and the use of pledge. The legal rate is fixed at five *māsas* a month³³⁵⁶ for 20 *kārṣāpaṇas* which comes to about 18½%. Anybody who exacted more than this legal rate of interest is called *Vārdhūṣika*. But according to *Vaśiṣṭha*,³³⁵⁷ two, three, four, five in the 100 is declared in the *Smṛti* to be the monthly rate of interest according to caste. Again articles such as gold, grain, flavouring substance, flowers, roots, fruits, wool, beasts of burden without security could be lent at an enormous rate of interest which could be increased six or eight-fold. The interest, however, stopped with the death of the king in whose reign the transaction took place.

Loans were contracted either on notes of hand³³⁵⁸ or on the deposit of pledges (*ādhi*).³³⁵⁹ It appears that the debtor got back his note of hand when the loan was repaid.³³⁶⁰

The State in relation to Economic life—The science of *Vārttā* which concerned itself with the various branches of production as understood in those days formed a part of the curriculum of royal studies³³⁶¹ and the king was repeatedly asked whether he was paying proper attention to the prosperity of those who are engaged in cattle-rearing, agriculture and

³³⁵¹ See also D. I. 71.

³³⁵² *Vinaya* I 76.

³³⁵³ *Gautama* XI. 21.

³³⁵⁴ II. 51

³³⁵⁵ XII. 34-35

³³⁵⁶ *Gautama* XII. 29. *Baudhāyana* I. 5.
10. 22.

³³⁵⁷ II. 42—50.

³³⁵⁸ *Īṇapaṇṇani* in *Khadirāṅgāra* (No. 40)
and *Ruru* (No. 48); *likhita* in *Vaśiṣ-*
ṭha XVI. 10.

³³⁵⁹ *Jātaka* VI. 521; *Therīgāthā*, 404.

³³⁶⁰ *Khadirāṅgāra* (No. 40); *Ruru* (No. 48).

³³⁶¹ *Rāmāyaṇa*, *Bālakāṇḍa*.

trade.³³⁶² Kings seem to have kept granaries for emergencies like war and famine³³⁶³ and to have provided persons with food and seed-corn to enable them to start farming.³³⁶⁴ He was bound not only to protect the property of infants³³⁶⁵ but also to maintain the śrotṛīyas, the weak, the aged, women without means and lunatics.³³⁶⁶ Āpastamva³³⁶⁷ calls upon kings to build a hall open to guests of the first three varṇas and to see that no Brahmin suffered from hunger in his realm.

In exchange for these and other services rendered by him the king had a right to a tithe on raw produce whose amount and method of assessment we have already described. Moreover, all property left intestate or ownerless reverted to the crown.³³⁶⁸ Gautama³³⁶⁹ lays down that the property of a Brahmin who leaves no issue (apparently, no successor) is divided among the Brahmins, but the king appropriates in such cases the property of men of other castes. According to Āpastamva³³⁷⁰ on failure of all (relations) let the king take the inheritance. Vaśiṣṭha³³⁷¹ and Baudhāyana³³⁷² are also of the same opinion. Vaśiṣṭha, however, excludes a Brahmin's property from the operation of this law.

Further the king was to proclaim by criers lost property, and if the owner be not found in a year, to keep it, giving $\frac{1}{4}$ th to the finder. All treasure-trove belongs to the king. An exception is made when a priest is the finder and some say that anybody who finds it gets $\frac{1}{8}$ th.³³⁷³ The king could impose forced labour (rāja-kāriya) on the people but this may have been limited to the confines of his estates. Thus, the peasant-proprietors enclose a deer-reserve for their king so that they might not be summoned to leave their tillage to beat up game for him.³³⁷⁴ Gautama³³⁷⁵ says that the king should force artisans to work for him for

³³⁶² Ibid., Ayodhyākāṇḍa, ch. 103.

³³⁶³ Ind. Ant. 1893, p. 261.

³³⁶⁴ D. 1. 135.

³³⁶⁵ Gautama X. 25.

³³⁶⁶ Vaśiṣṭha XIX. 35 ; Gautama X. 9-12 ;

Āpastamva II. 10. 4-12.

³³⁶⁷ II. 10. 4-12.

³³⁶⁸ Jātaka. III. 302 ; cf. IV. 415. S. I. 89

(Kindred Sayings I. 115).

³³⁶⁹ XXVIII. 41.

³³⁷⁰ II. 14. 5.

³³⁷¹ XVII. 83-86 ; cf. XVI. 19.

³³⁷² I. 11. 14-16 ; cf. I. 18. 16.

³³⁷³ Gautama X. 31.

³³⁷⁴ Nyagrodhamiṅga Jātaka (No. 12) ; Nandikamīṅga (No. 385) ; cf. Mahāsvapna (No. 77).

³³⁷⁵ Gautama X. 31.

one day in the month. If the stock is merchandise, says Gautama,³³⁷⁶ the tax according to some is $\frac{1}{20}$ th, if it be gold or catttle $\frac{1}{10}$ th, while $\frac{1}{8}$ th is the tax on roots, fruits, flowers, medicinal herbs, honey, meat, grass and firewood.

It may be noted in this connection that śrotrīyas, ascetics forbidden to hold property, students, artisans, those who live by exploiting river, forest or hills, those earning less than a kārṣṭipāṇa, slaves, servants, very old men, blind, dumb, deaf and diseased persons, those without protectors, children before puberty, women of all castes, wives of servants, widows who have returned to their families, unmarried girls and pradattā's (probably those girls whose marriages have been proposed)—all these were exempt from taxation.³³⁷⁷

Regulation of prices and profits by the state came as a natural sequel to the ideal of co-operation on which Indian society, though apparently split up into castes, was based. Undue raising of prices came to be denounced³³⁷⁸ and, as we have already seen, for the royal household prices came to be fixed by the court-valuer without appeal; and what was once done in the interest of the king came to be done in the next epoch in the interest of the public as well. The exactions of the vārdhūṣika came to be denounced, his food was regarded as impure³³⁷⁹ and the rate of interest, was fixed.³³⁸⁰ On the same principle Vasiṣṭha³³⁸¹ asks the king to guard against the falsification of weights and measures.

While exploitation of others by capitalists came to be denounced great emphasis was laid on the performance of duties assigned to individuals and castes. We have already seen how the Dharmasūtras not only condemned those who did not perform their caste-duties³³⁸² but also authorised the king to punish them.³³⁸³ We similarly find in the Dharmasūtras rules for punishing herdsmen who left their work or persons in tillage who abandoned their work and thereby caused loss to the employer.

³³⁷⁶ Ibid., 25-27.

³³⁷⁷ Vasiṣṭha, XIX. 23-27; Āpastamva II. 10. 10-17.

³³⁷⁸ Vasiṣṭha II. 50.

³³⁷⁹ Ibid., 40-42.

³³⁸⁰ Ibid., 42-50; Gautama, XII. 29-35.

³³⁸¹ Ch. XIX.

³³⁸² Āpastamva II. 11. 11.

³³⁸³ Ibid., II. 10. 12-16; cf. Ibid., II. 27. 18; Gautama XI. 31.

Mendicancy and undue asceticism was regarded as a social evil except in the case of men in the decline of their lives. This appears not only from the trend of the conversation between the Buddha and Ajātaśatru but also from the Vāśiṣṭha Dharmasūtra³³⁸⁴ where begging Brahmins have been denounced as thieves.

Thus, we see that already in this period there were a general tendency to state-interference in economic life which developed into an accredited policy of the state in the next epoch.

The general economic condition of the classes and the masses— The hoarded wealth of the merchants, usually estimated in crores, their magnificent donations to the various religious orders, the establishment of almonaries, the excavation of tanks and other public benefactions of the rich, the existence of the actor, dancer, singer, acrobat, magician, storyteller, shampooer and dress-maker—all point to the prosperity of the upper classes. It is further proved by the rich festivities, large fees paid to courtesans, the high price of rich wines and the stories of betting with big sums.³³⁸⁵ The luxury of the rich is equally evident from the existence of palatial buildings and the use of hair-dye,³³⁸⁶ ointment (vilepana),³³⁸⁷ scent called sarvasamhāraka,³³⁸⁸ sandalwood oil,³³⁸⁹ essence of sandalwood,³³⁹⁰ aguru,³³⁹¹ guggulu,³³⁹² camphor,³³⁹³ chaturjātiya gandha,³³⁹⁴ kalka,³³⁹⁵ specially sarṣapa-kalka (mustard

³³⁸⁴ Ch. II.

³³⁸⁵ Bhūridatta Jātaka (No. 543).

³³⁸⁶ Āmracorrā Jātaka (No. 344).

³³⁸⁷ Apañṇaka Jātaka (No. 1).

³³⁸⁸ Mahāunmārga Jātaka (No. 546).

³³⁸⁹ Kuśa Jātaka (No. 531).

³³⁹⁰ Kurudharma Jātaka (No. 276).

³³⁹¹ Bhallāṭika Jātaka (No. 504);
Khaṇḍahāla (No. 542).

³³⁹² Mātanga Jātaka (No. 497).

³³⁹³ Andhabhūta Jātaka (No. 62).

³³⁹⁴ According to the commentator

kumkum (saffron), jātipuṣpa, turaṣka (a scent from Turkey = myrrh?), yavāna (a scent from Yavana country)—these four made up chaturjātiya gandha referred to in Mahāśīlavajja (No. 51) and Mātanga (No. 497) Jātakas.
= Pāli kakku in Kuśa (No. 531). According to the commentator powdered mustard, salt, earth, powdered sesamum and turmeric—these five made up kalka.

to wander about the country with their children for food.³⁴⁰⁵ The *Viraka Jātaka*³⁴⁰⁶ refers to a famine in the kingdom of Kāśī which was so intense in character than unable to find food all the crows left the kingdom. Another famine which overtook a Kāśī village was so terrible that the villagers had to take from their headman a collective loan of an old ox on whose flesh all of them had to subsist for a day or two³⁴⁰⁷ Records of such famine are also to be met with in the early canonical literature of the Buddhists.³⁴⁰⁸ These evidences contradict the assertion of Megasthenes that famines were unknown in India,³⁴⁰⁹ unless of course he meant a very general and protracted famine.

In spite of these visitations India was rich. Stories of her great wealth and prosperity reached the ears of foreigners and roused their greed and this made them invade India. In the fifth century B.C. the small Indian satrapy of Darius was regarded the wealthiest province of his empire, yielding the vast annual tribute of 360 Eubolic talents of gold, worth fully £1,290,000.³⁴¹⁰ This supply of gold India obtained, not as did Europe from America by conquest and rapine but by her mining industries and by the more natural and peaceful method of commerce "by the exchange of such of her productions as among the Indians were superfluities but at the same time not only highly prized by the nations of western Asia, Egypt and Europe but also were obtainable from no other quarter except India or from the farther East by means of the Indian trade."³⁴¹¹

THE END OF VOL. I.

³⁴⁰⁵ Kurudharma Jātaka (No. 276).

³⁴⁰⁶ No. 204.

³⁴⁰⁷ Gṛhapati Jātaka (No. 199).

³⁴⁰⁸ Vinaya I. 21, 23f; III. 220, n. 1; compare the five itī's in Sudhā-bhojana (No. 535). In the Mahā-svapna (No. 77) a dream is interpreted as foreboding famine in Kalinga caused by draught. The

Manicora (No. 194) refers to the popular belief that famines are caused by the sins of rulers.

³⁴⁰⁹ McCrindle—Ancient India as Described by Megasthenes, 32.

³⁴¹⁰ Rawlinson's Herodotus, Vol. II. p. 487.

³⁴¹¹ C. Daniell—Industrial Competition of Asia, p. 225.

Index I. Sources with the Subjects

[*The references are to the pages of this work*]

Agni Purāṇa—Translated into English by M. N. Dutt. in two vols. on the right of collecting grass, fuel and flowers enjoyed by Brahmins 82.

✱Aitareya Āraṇyaka—Text with Eng. Trans. by A. B. Keith on spade 132; gold 123; polished mirrors 135; wooden sacrificial spade 136; seats made of udumvara wood 137; boats 138; ropemaker 149 f.n.; āvasatha (abode for guests) 168.

Aitareya Brāhmaṇa—Text with Eng. Trans. by M. Haug in two vols. on the story of Viśvāmitra and his fifty sons who were expelled by him 82-83; sale of Śunahsepha by his father Ajigarta 83; ownership of land; story of Manu dividing his land among his sons 84; Vaiśya's peculiar function of being eaten up by the priest and nobleman 85; law of inheritance 90; beef-eating 111; race of chariots drawn by donkeys 112; vāsas (cloth) 116; daśā (fringe or border of cloth) 161; niṣka (a medium of exchange) 125, 165; necklace of niṣkas 128; wooden sacrificial posts 137; āsandī (shining seat) made of udumvara wood 138; āsandī square in shape 138; āsandī rectangular in shape 138; āsandī having four legs 138; stretching of hides with pegs 139; tiger-skin as coverlet for āsandī's 139-40;

preparation of Soma sacrificial drink 141; pillar (methi) 145; śreṣṭhin (banker?) 152, 157; loss of status of the Vaiśyas the mass of the industrial population who became tributary to another (anyasya valikṛt) and whose function was to be devoured by the priest and nobleman 152; gradual transition from human sacrifice to horse sacrifice during the pastoral stage, thence to the sacrifice of domesticated animals ending with the offering of the fruits of the earth in the agricultural stage 154; Kavasha, son of a low caste woman 155-56; royal priests 156; King Viśwantara sacrificing without the help of of priests 156; high-roads (mahāpatha) 159; setu (raised bank for crossing inundated land) 160 f.n.; beef as food for royal and other distinguished guests 165; indebtedness 177.

✱Alberuni *See* under Enquiry into India—Alberuni.

Altindischen Leben—Zimmer on weather-prophet 150; kilāla 142, 227 f.n.; grāma as a clan standing between the family and the tribe 25 f.n.; verbal contest in the Vedic village council 23; grāmaṇī as president of the village council 25-26; paṇi 74; seasons 91 f.n.; harmyeṣṭhah prince 173-74.

✱Amarakoṣa with the commentary of Kṣīraswāmī on Añkotha (flower tree)

= Afikola of Bhallātika Jātaka ? 236 ;
 Āsphoṭā (= Aparājītā) = Aphotaka of
 Viśwantara Jātaka ? 207 fn.

American journal of Philology (Vol. VII)
 Bloomfield on Sakadhūmam (weather-
 prophet) 50 fn.

Ancient Coins and Measures of Ceylon—
 Rhys Davids on pāda meaning a fourth
 part of a certain gold weight and not a
 metallic standard 166.

Ancient Egyptians—Wilkinson on early
 trade between ancient India and Egypt
 21.

Ancient and Mediæval India—Mrs. Man-
 ning on elephants unknown to the
 ancient Egyptians 21 ; preparation of
 Soma drink 34 fn.

X Ancient and Mediæval Architecture—E.
 B. Havell on the high antiquity and
 origin of townplanning in ancient India
 146.

X Ancient History of the Near East—Hall
 on the Mitanni and the Kassites of
 Syria and Sumer worshipping some of
 the oldest Vedic Gods 73.

X Ancient India as Described by Megasthenes
 and Arrian—McCrindle on the rela-
 tions of King Cyrus of Persia with the
 tribes on the right bank of the Indus
 163 ; 58 rivers of India 200 ; gold
 coming from Derdæ = Sans. Darada or
 Darāda = modern Dardisthan in Kash-
 mere 210 ; method of capturing ele-
 phants, the precursor of modern khedā
 system 212 ; stones sweeter than figs or
 honey (= sugarcandy ?) 229 ; famines
 unknown in India 280.

X Ancient India as Described by Classical
 Authors—McCrindle : *Herodotus* on

vegetable wool (raw cotton) 202 ; the
 story of gold-digging ants 209—10 ;
 export of stones and dogs from India to
 Babylon 260, 262. *Aristobulus* (Frag-
 ment 39) on the ruins of over a thousand
 towns and villages in the Indus region
 179 fn. ; (Fragment 29) on rainfall in
 Taxila 199 ; *Strabo* (XV. C. 693) on the
 ruins of over a thousand towns and
 villages in the Indus region 179 fn ;
 (XV. C. 691) (cf. C. 697) on rainfall in
 Taxila 199 ; (XVC. 689) on India, a land
 of rivers 200 ; (XV. C. 706) on gold
 coming from Derdæ = Darada or Darāda
 = modern Dardisthān in Kashmere 210 ;
 (XV. 1. 41—43, pp. 704—705) on method
 of capturing elephants, the precursor
 of the modern khedā system 212 fn. ;
 (XV. C. 700) on the primitive nature
 of Indian mining and metal industries
 214 ; (XV. C. 701) on Indians having not
 pursued accurate knowledge in any line
 except Medicine 214 ; (XV. C. 703) on
 stones sweeter than figs or honey (=
 sugarcandy ?) 229 ; *Theophrastus* on
 India famous for ivory and ebony 70 fn.
Nearchos (Fragments 9 and 10) on
 leather oil flasks and white leather
 shoes 226 ; on earrings of ivory 228.

Ancient Indian Numismatics (Carmichael
 Lectures, 1921)—D. R. Bhandakar on
 the relative value of gold and silver
 based on a second century inscription
 271.

X Annals and Antiquities of Rajasthān—
 Col. Todd (2 vols.) on the Hindu names
 of towns at the estuaries of the Gambia
 and Sengal rivers of the Tumba Cunda
 and of another Cundas 19.

Anguttara Nikāya or the Book of the
 Gradual Sayings—Translated by M.

Hare in three vols. on the use of birds to guide pilots (In a cloudy day birds were let loose and the direction to which birds went, the mariners thought land lay that way) 262.

Antiquity of Hindu Medicine—Royle *See* under Essay on the Antiquity of Hindu Medicine—Royle.

Anukramanī to the Rgveda on royal seers who have composed Rgvedic hymns 155—56.

✓Arthaśāstra of Kauṭilya on corporate undertakings by villagers 189; kākanika = $\frac{1}{4}$ māṣaka 268 fn.; 1 silver māṣaka = 88 white mustard seeds in weight 270; table of weights and measures 272 fn.

✓Artic Home in the Vedas—B. G. Tilak on the seasons in the Vedic Age 91 fn.

✓Atharvaveda—Text Edited by Roth and Whitney and revised by Lindenau on technical terms connected with weaving like otu (woof), tantu (yarn) and mayukha (pegs to stretch the web on or shuttle) 115; vastra (cloth) 116; sic (fringe or border of cloth) 116; nivi (closely woven end of the cloth) 116; drāpi (vest) 47-48, 118; pratidhi (a part of the bride's attire) 118; uṣṇīsa (headdress) 118; kamvala (blanket) 119; sāmulya (undergarment of wool ?) 119; uttuda (sprung from tuda or mulberry i. e., silken ?) 119; śana (hemp) 119; metals: gold, ayas, silver, tin, lead and śyāma 122; extraction of gold from earth (mines) 125; niṣka (a medium of exchange) 125, 165; chips of gold used in sacrifice 125; gold on the priest's finger 125; gold given as fee to the priest 125; golden ornaments 127; ornaments of various kinds: tiritā,

parihasta, pravarta, ring, golden amulet necklace of niṣkas, kurīra, kumba, opāṣa etc. 127-28; silver amulet 130; loha 131; śyāma 131; a pair of shears with sharp blades 131; iron axe 132; iron hook 132; razor 132; iron net 132; fetters made of iron 132; sacrificial hatchet 132; sickle to cut and trim the sacred grass 123; threads of iron used in amulet 132; armour 132; iron forts 132; iron pillars 133; dhruva (wooden sacrificial ladle having the largest bowl) 136; juhu (wooden ladle) 136; upabhr̥t (wooden ladle) 136; wooden mace used in sacrifice 136; wooden cover for sacrificial vessels 136; wooden mortar and pestle for pounding rice 136; 169; wooden pegs (used in stretching out skin or woven cloth and for other purposes) 126; wooden sacrificial posts 187; svaru (timber post) 187; drupad (timber post) 137; vanaspati (timber post) 137; tālpa (nuptial bedstead made of wood) 137; proṣṭha (in proṣṭha-śāya) something like a high and broad bench 137; vahya (light couch that could be carried about when necessary) 137; āsandi (shining seat or occupier of a shining seat) 137; Vrātya chief's āsandi described 138; rathakāra 138; carriage 188; boat 138; black antelope-skin as the dress of the religious student 139; deer-skin as dress 139; deer-skin as coverings 139; black antelope-skin used in pressing soma and bruising and husking the rice used in oblations 139, 174; decorated and inlaid (piś) bowls like the starry night 142 and carvings in relief of gods inside the bowl 142; the ordinary type of a dwelling house 146, 168; various divisions of the dwelling house: store-house of soma, agni-

śāla, patnīnām sadana, store-room for corn, covered verandahs, sheds for cattle etc. 143; gṛha (either an actual house erected over or beside the grave in memory of the deceased or chambers and vaults of subterranean or rock-cut caves) 144; pillar (sthunā) on Vedic grave 144-45; dvāra (door) 145 fn.; duron (door) 145 fn.; sthunā (pillar) 145 fn.; svaru (pillar) 145 fn.; methi with variants medhi, methī or methi (pillar) 145 fn.; husbandman 148; taṣṭi (carpenter) 149; sakadhūman (weather-prophet) 105; kusidin (usurer) 152; slaves and their condition 153; female labour 153; 153 fn.; interchange of commodities of various localities 158; life of the merchant described 159; parirathyā (road suitable for chariots) and cart-roads 159; charm to ensure a prosperous journey 159; parting traveller's address to the houses of his village 159, 168; references to sea and the use of sea by means of simile 160; existence of three seas 160; evaporation of seawater going to form the clouds 160; nāvaprabhramśanam (sliding down of the ship) 161; pratipana (exchange of merchandise) 164; āvasatha (structure of some sort for the reception of guests) 168 fn.; ukhā (cooking pot) 169; sūrpa (winnowing basket) 169; wooden stirring prong 169; fork 169; brahma-udana 169; wife joining her husband in ceremonies and sacrifices 171; wife as queen of the household 171 fn. 171-72; cooking left to the wife 171; bride weaving the garment which the husband is to wear on the first day of his wedded life 172; girls as milkmaids of the family 172; liberality of princes 173; harmya 174; women winnowing

grain 174; women collecting the alkaline droppings of the cow 174; attendants 174; lākṣā (lac) 176; rate of interest 177; prayers to deities in connection with debts 177; contraction of debt with the intention of non-payment 177; King Parikṣhit realising the ideal of material welfare of his subjects during his rule 178.

Atharvaveda—Eng. Trans. by M. Bloomfield *See* under Hymns of the Atharvaveda by M. Bloomfield.

Atharvaveda—Eng. Trans. by R. T. H. Griffith in two volumes on śāriśākā as cultivated rice 93; forests supplying materials for the construction of chariots 97; on the use of udumvara wood in making amulets, sacrificial posts and ladles 98; the use of the timber of the hard-wooded tree Aratu in making the axles of chariots and carts 99; Ābaya as being poisonous in its natural condition but medicinal when cooked and properly prepared 105; on the use of the skin of the black antelope in pressing Soma and bruising and husking the rice used in oblations 139 fn.

Atthasālinī (Buddhaghoṣa's commentary on Dhammasangani)—Trans. into Eng. by Maung Tin in two vols. on the relative position of the apprentice and the master craftsman 245.

× Āpasthamva Gṛhyasūtra—Trans. into Eng. by F. Max Muller in the S.B.E. series vol. XXX. on the rules and rites of house-building 235.

× Āpasthamva Dharmasūtra—Trans. into Eng. by George Buhler in the S. B. E. series vol. II. on forests as the

abode of hermits 203 fn.; rigidity of the caste system 244, 277; the condemned professions 249; a śūdra can become a Brahmin and *vice versa* according to good or bad deeds 248; slaves could be exchanged for another 253; Brahmins permitted to barter homegrown corn, food, etc. 267; cow as a standard of value 268; the king's duty to maintain śrotriyas, the weak, the aged, women without means and lunatics 276; king's duty to build a hall open to guests of the first three varṇas and to see that no Brahmin suffered from hunger 276; property left ownerless reverting to the crown 276; those exempted from taxation 277.

Āśutoṣa Silver Jubilee Volumes on Orientalia vol. III. (Article by Prof. K. M. Gupta) on the Land System and Agriculture of the Vedic Age 91—92.

×Āśvalāyana Gṛhyasūtra—Trans. into Eng. by H. Oldenburg in the S. B. E. series vol. XXIX. on vrihi (rice) 200; yava (barley) 201; sesamum 202; armour 214; axe 215; copper implements 216; copper razor 216; gold vessels 216; gold spoon 217; ornament 217; earring 218; chariot 222; wooden spoon 223; juhu (spoon) 223; uprbhṛt (spoon) 223; sruva (small sacrificial ladle) 223; dhruva (big sacrificial ladle) 223; agnihotrahavani 223; pātrī 223; prasitraharaṇa 223; wooden dish 223; wooden sacrificial cup 223; sphya (wooden sacrificial sword) 224; basket 224; winnowing basket 225; earthen vessels 225; jug 225; jar 225; shoes 225; leather by which the arm is protected against the bow-string 226; rules and rites on house-building 235;

method of examining the building site 235.

Āśvalāyana Śranta Sūtra with the commentary of Gārgya Nārāyaṇī on karpāsa (cotton) 120, 202.

B

×Baudhāyana Dharmasūtra—Trans. into English by George Buhler in the S. B. E. series in Vol. XIV. on the articles used in the preparation of the Soma drink 141; condemnation of the custom of N. Aryans participating in sea-trade 163, 259, 260; condemnation of town-life 186; ideal economic holding 190; law of inheritance and succession 193-95; $\frac{1}{4}$ th as the royal share of the produce 196; forests as the habitation of hermits 203; condemnation of actors, stage-players and teachers of acting, singing and dancing 249; āpaddharma 250; cow as a standard of value 268; condemnation of money-lending 274; five māṣas a month for twenty kārṣāpaṇas as the legal rate of interest 275; property left ownerless reverting to the crown 276.

×Beginnings of South Indian History—S. Krishnaswami Iyenger on Babylonian influence on Hindu Astronomy 73.

Bibliography of Indian Geology (article on gold by La Touche) on Neolithic gold mining 4.

×Biography of Words—F. Max Muller on the common knowledge of the arts of the weaver, the carpenter and the plaiter of grass and reeds among the peoples speaking the Indo-European group of languages 45; loha originally meaning copper but later on denoting iron 49.

Black Yajurveda *See* Taittirīya Saṃhitā.

Book of the Kindred Sayings, The—
Rhys Davids and F. H. Woodhard. *See*
under Kindred Sayings.

× Brhadāranyaka Upaniṣad—Trans. into Eng.
by F. Max Muller in the S. B. E.
Series Vol. XV. on the crops grown
94; gold 123; silver 123; goldsmith
124; pādas of gold 125 fn.; golden
vessel for Aśvamedha called mahiman
126 fn.; ladle of pure gold 126; silver
vessel for Aśvamedha called mahiman
130; metal vessels 131; razor 132;
sruva (small wooden sacrificial ladle)
136; cup made of udumvara wood 136;
169; waggon 138; carriage 138;
Kings Pravahana Jāvāla and Ajātaśatru
disputing with and instructing Brah-
mins in the lore of the Brahmā 156;
gaṇa 157; description of horses and
salt as coming from the Indus regions
151; setu (raised bank for crossing
inundated land) 160 fn.; pāda as a
metallic standard 167 fn.; liberality
of princes 173; lākṣā (lac) 176.

Buddhaghoṣa's Commentary on Mahāvagga
I, 30, 231.

Buddhist Birth Stories—Rhys Davids on
female dancers and singers 256.

× Buddhist India—T. W. Rhys Davids on
corporate village life 188; Suppāraka
city 183; Solasa mahājanapada in the
Jātaka period 197; picture-gallery of
King Pasenadi of Kośala 237; articles
in which the merchants dealt 262;
Suppāraka as a port of departure 262;
retail and wholesale trade: its arrange-
ments 265.

× Buddhist Records of the Western world—
Beal *See* under Si-Yu-Ki.

× Buddhist Suttas—Trans. into Eng. by T.
W. Rhys Davids in the S. B. E. Series
Vol. XI. on Sāketa city 182; cattle-
rearing (in Dhaniya Sutta) 211;
detailed description of a flight of
stairs 234; open-air bathing tank des-
cribed 234; 2000 years old baths at
Anurādhapura in Ceylon still in a fair
state of preservation described 234 fn.

Calcutta Review (April, 1933) Prof. Amūlya
Ch. Vidyābhūṣaṇa (in his article on
Social life in Jaina Literature) on 1000
pieces as the fee of a courtesan (Kāma-
dwajā Vanijagrāma) for one night 257;
umbrella and yak-tail granted to a
courtesan as a mark of royal favour
257.

× Cambridge History of India—Rapson, Vol.
I. on Dāsa chief living in pūras 23;
monarchy as a well-established insti-
tution in the R̥gvedic Age 25; rejection
of Zimmer's view that the grāma was
a clan standing between the family and
the tribe 25 fn.; pūras as meaning
earthwork fortifications and not towns
28; no mention of the use of the horse
in war in the R̥gveda 38; Vedic Indian
very little of a navigator 67, 68; origin
of the story of the Rāmāyaṇa in the
later Brāhmaṇa period 81; the nature
of royal ownership of land 81-87; no
see-borne commerce with Babylon in the
Brāhmaṇa period 162; relations of King
Cyrus of Persia with the tribes on the
right bank of the Indus 163; Indian
tribes subject to Assyrian kings 163;
different districts having different laws
of inheritance 193-94; caste was no
bar to mobility of labour both vertical
and horizontal in the Jātaka period 248;

the large size of ships mentioned in the Jātakas 260.

✕ Chāndogya Upaniṣad—Trans. into Eng. by F. Max Muller in the S. B. E. series Vol. I. on the dearness of salt owing to its importation from a distant place 34, 158 fn.; house and fields as instances of private wealth 82; 85; transferrability of houses and fields 85; royal gift of a village to Raikka 89, 173; famine 96; *vasana* (cloth) 116; gold 123; other metals: silver, lead, tin and *loha* 123; *lavaṇa* (borax) 123; softening of gold by means of borax 124—25; *alaṅkāra* 127 fn.; necklace 128—29; *loha* 131; softening of silver by means of gold, of tin by means of silver, of lead by means of tin and of *loha* by means lead 131; hatchet 132; pair of nail scissors (*kārṣṇāyaśam*) 132; bell metal (*kāṁsya*) vessels 133; *parigṛha* 145; fisherman 151; kings Aśwapati and Pravahana Jāvāla disputing with and instructing Brahmins in the lore of the *Bṛhmā* 156; a Brahmin imparting knowledge to a Śūdra, accepting his presents and taking his daughter for his wife 156; Satyakāma Jāvāla of humble origin was accepted by a priest as a pupil and afterwards became founder of a school of the Yajurveda 156; high-roads (*māhapatha*) 159; *setu* (raised bank for crossing inundated land) 160 fn.; *āvasatha* (structure of some sort for the reception of guests) 168 fn.; perfumes 176; liberality of *Janaśruti* 173.

✕ Chips from a German Workshop—F. Max Muller, Vol. I. Vedic idol-worship (sculpture) 37; absence of the caste system in the R̥gvedic Age 58.

✕ Chullavagga—Trans. into Eng. by T. W.

Rhys Davids and Hermann Oldenburg in the S. B. E. series vols. XVII and XX. on the sale of land 192; description of farming operations 198; monks combing cotton and making the cotton up into pillows 219; *cholaka* (handkerchief) 220; bolsters of five kinds 220; mosquito curtain, etc. 220; *pallanka* (high class bedstead) 222; bench long enough to accommodate three persons 222; *āsandi* 222; *āsandaka* 222; *sattango* (sofa) 222; sofa with arms to it 222; arm-chair 222; *bhadda-piṭham* (state chair) 222; *vithikā* (cushioned chair) 222; *elaka-padaka-piṭham* (chair raised on a pedestal) 223; *āmalakavaṇṭika-piṭham* (chair with many legs) 223; *cocchham* (cane-bottomed chair) 223; straw-bottomed chair 223; supervision of building construction as one of the duties of the Buddhist Order 281; five kinds of abodes allowed to Buddhist monks 231; selection of building site 232; extensively built houses described 232; period taken in building some of the big houses 232; compound of houses enclosed with ramparts of three kinds 233; description of gateways 233, five kinds of roofing 233; floors of houses 233, doors, 233-34; windows 234; adjustable shutters for windows 234; flight of stairs 234 fn.; monks allowed to use a loom and all the apparatus belonging to a loom 246; the despised callings 249.

✕ Civic and National Ideals—Sister Niveditā on civic consciousness in the age of the Rāmāyaṇa 148.

✕ Civilisation in Ancient India—R. C. Dutt

on the derivation of *Ārya* from a root (*kr̥*) which means to cultivate 28.

✕Comparative Grammar of the Dravidian Languages—Dr. Caldwell on Dravidian words in the Hebrew text of the Book of Kings and Chronicles of the Old Testament suggesting that the two words concerned formed the chief article of trade between the early Indians and the Jews 91; trade between early Indians and the Greeks 260.

✕Contributions to the History of the Hindu Revenue System—Dr. U. N. Ghosal on *hiranya* meaning cash charge upon certain special classes of crops 88.

Das Alte Indien—Von Bohlen, Vol. I on early trade between India and Arabia 71—72.

Der Rigveda—Ludwig Vol. I. on the judicial function of the village *sabhā* in the R̥gvedic Age 26; *paṇi's* (merchants) 74; *anūka* as adverb and not as an ornament 51; *hyārā* in R̥gveda 1. 180. 3. meaning a wooden vessel and not a snake or a thief 53 fn.

✕Dhammapada—Trans. into Eng. by F. Max Muller in the S. B. E. Series Vol. X. on channels dug for co-operative irrigation of fields 200.

Dhammapada Commentary on cattle rearing 211; female slaves waiting upon queens and performing such duties as buying flowers for them 252; undischarged slave cannot enter into the Buddhist order 253; woman working as the keeper of a paddy field and parching the heads of rice 256; woman working as keeper of burning grounds

though no wages are mentioned 256; woman working as an acrobat 256; woman working as a dancer and singer 256; courtesans having their serving maids 257; taverns for the sale of liquor 256.

Dialogues of the Buddha—Trans. into Eng. by T. W. Rhys Davids in four Vols. on Ukkat̥ṭha city 183; Buddha did not accept slaves from anybody 253; undischarged slaves not eligible for the *pavajja* ordination 253; female dancers and singers 256.

Die Indogermanen—Hermann Hert, Vol. I. on the original Aryan stock having acquaintance with agriculture long before their migration into different lands 22.

Digest of Hindu Law—Colebrooke on conditions of apprenticeship as given by Gautama 245; and by Kātyāyana 245.

Digha Nikāya on the cities of Vārāṇasī, 180, Champā 180, Dantapura on the Kalinga coast 180-81. 262, Māhissati 181, Mithilā 182, Potana 182 and Roruka, capital of Sovira 182, 262; description of an open-air bathing tank 234; voyages out of sight of land 258.

Disquisition on Ancient India—Robertson on the Arabian-Indian branch of Phœnician trade 10.

Divyāvadāna—Text critically edited by E. B. Cowell & Neil on the cities of Brahmottara 180, Nandana 182, Romanaka 182 and Sadāmatta 182.

✕Dwipavaṃśa on glass pinnacle placed on the top of the Ruanwelle dagoba by Suidaitissa in the second century B. C. and on a glass mirror in the third century B. C. 135.

E

✕ Early History of India—V. A. Smith on the origin of the city of Pātalīputra 184.

✕ Early History of Kauśāmyi—N. N. Ghosh on the identification of Sahajāti with the ruins now existing at Bhiṭā, about eight miles from Allahabad 264 fn.

Early History of the Spread of Buddhism and the Buddhist Schools—Dr. Nalinākṣa Dutt on lands gifted away 192.

✕ Enquiry into India, An—Alberuni (Eng. Trans. by Sachau) on the identification of Suvarṇa island with the islands of the Malaya Archipelago 162 fn.

✕ Epigraphica Indica (vol. I) on pāda as a metallic standard 167; (vol. II) on forests as elephant-preserves 204 fn.

Essay on the Antiquity of Hindu Medicine—Royle on *Myrrh*—Egyptian *bal*—Sans. *bota* 21—22; Arabian—Indian branch of the Phœnician trade 70.

Explorations in Sind—N. G. Mazumdar on Limbi in Kathiawar as an outpost of Indus civilisation 16; wider diffusion of Indus civilisation in Western Sind between the Indus and the Khirthar range 11.

G

✕ Gautama—Trans. into Eng. by George Buhler in the S. B. E. series vol. II. on unenclosed land used by all for grazing cattle, obtaining firewood, gathering flowers and getting fruits 190; private ownership of land 191; modes of acquisition of property 191; acquiring property by usage 192—93; law of inheritance and succession 194—95; royal share of the produce 196;

forest as the habitation of hermits 203; all treasure-trove belongs to the king 210, 276; exception to this rule 210—11, 276; guild of herdsman 242, of money-lenders 242, 275, of cultivators 242 and of traders 242; rigidity of the caste system 244, 277; legislative functions of guilds 244; conditions of apprenticeship 245; the condemned professions 249; Āpaddharma 250; Brahmins permitted to barter home-grown corn, food etc., 267; toleration of money-lending 274; six different kinds of interest 275; five māṣā's a month for twenty kārṣāpaṇas as the legal rate of interest 275; king's duty to protect the property of infants and also to maintain the śrōtrīyas, the weak, the aged, women without means and lunatics 276; property of a Brahmin who leaves no issue to be divided among the Brahmins but the king appropriates in such cases the property of men of other castes 276; anybody who finds a treasure-trove gets one-sixth 276; artisans to work for the king for one day in the month 276—77; scale of royal taxation 277.

Geography—Ptolemy on the identification of Yavadwīpa with Java 162 fn.

Gopatha Brāhmaṇa (and the Atharvaveda)—M. Bloomfield on beef-eating 111; Kauśamveya, one belonging to the city of Kośamvi 181 fn.

✕ Govila Gṛhyasūtra—Trans. into Eng. by F. Max Muller in the S. B. E. series vol. XXX on the rotation of crops 91, 200; depicting life in the village 186; ceremonies connected with agriculture 199; rules on house-building 235.

Growth and Vicissitudes of Commerce—

J. Yeats on the high antiquity of the silk industry of China 162.

✕Guide to Taxila—Sir John Marshall on circumstances leading to the growth of the city of Taxila 184.

✕Herodotus—Rawlinson on 360 Euboeic talents of gold-dust paid as tribute by the Indian satrapy of Darius 280; Indian army of Xerxes armed with iron-headed arrows 214.

Hibbert Lectures for 1887 on the Origin and Growth of Religion among the Babylonians—Dr. Sayce on commerce between India and Babylon as early as 800 B. C. 17.

✕Hiranyakeśin Gr̥hyasūtra—Trans. into Eng. by F. Max Muller in the S. B. E. Series Vol. XXX. on rules and rites on house-building 235.

Historians' History of the World (Vol. I) on trade and the articles of trade between India and the Western world (Assyria, Babylon etc.) 163—64; (Vol. II) on the Arabian-Indian branch of the Phœnician trade 70.

Historical Researches—Heeren on the derivation of Abyssinia from Aboasin, a classical name of the Indus 19; trade between ancient India and Egypt 20; trade between ancient India and Arabia 71.

✕History of Ancient Sanskrit Literature—F. Max Muller on various kinds of priests 239.

History of Ancient Del Orient—Eng. Ed. (Vol. II) on trade between ancient India and Egypt via Yemen 18, 72; trade

between ancient India and Arabia 71-72.

History of Antiquity—Max Duncker on trade between early Indians and Sabœns on the coast of S. Arabia before the tenth Century B. C. 72.

✕History of Aryan Rule in India—E. B. Havell on the antiquity and origin of town-planning in ancient India 145-46; growth of villages into towns 183-84.

History of Commerce—Dr. Day on Phœnician commerce and its Arabian-Indian branch 69.

✕History of Sanskrit Literature—A. Macdonald on the absence of horse-riding in the R̥gvedic age 38; brāhmaṇa in the sense of a man of the first varṇa occurring only eight times in the R̥gveda while in the sense of sage or officiating priest occurring forty-six times 59; composition of the Rāmāyaṇa before 500 B. C. 81; date of Kātyāyana 245.

✕Hymns of the Atharvaveda—M. Bloomfield on opāśa as a coverlet for women (orṇā) 51 fn.

Illustrated London News (Feb. 27 and March 7, 1926; Jan. 7 and 14, 1928) on Prehistoric Civilisation of the Indus valley 12—16.

✕Imperial Gazetteer of India (Vol. II) on Neolithic graves 6; Piprawah stupa (450 B. C.) 214, 236,

✕India in Greece—Pococke on colonisation of Ethiopia by Indians 18—19; on the points of similarity between the sculpture and architecture of ancient India and ancient Egypt 20.

✕ **India and the Western World**—Rawlinson on supposed Babylonian influence on Hindu Astronomy 73.

Indian Antiquary (Vol. VIII)—T. Foulkes on trade between Ancient Indians and the Jews 71; trade between ancient India and Egypt 21; existence of a sea-route between India and Persian coasts in the days of the Buddha 261. (Vol. XI) Prof. Ball on trade between early Indians and the Jews 70-71; explanation of the story of the gold-digging ants 210. (Vol. XIII) on trade between Ancient India and Egypt via Yemen 18. (Vol. XXX) Mr. Fawcett on the sculptures on the Edakal Cave, Wynad 5 fn. (Vols. XXXIV and XXXV) V. A. Smith on no Bronze Age in India 7; on the copper and prehistoric implements of India 7; (Indian Antiquary, 1896) kings seem to have kept granaries for emergencies like war and famine 276.

Indian Village Community—Baden Powell on Aryan lands being cultivated by the conquered aborigenes 64.

Indica—Ktesias on dogs, onyxes and other precious stones as articles of trade between India and Babylon 162-63; description of the Indian lākṣā (cochineal) 164; karpion (= karpura) 260.

✕ **Indica**—Arrian on fifty-eight rivers of India 200; method of capturing elephants, the precursor of the modern 'kheadā' system 212; oilflasks made of leather 226; white leather-shoes 226; earring made of ivory 228.

Indische Alterthumskunde—C. Lassen Book I. on early trade between India and Arabia 71—72; on the Sans-

krit name *ibha* reaching Egypt through Tyre and becoming Egyptian *ebu* 21; elephants neither used nor tamed in ancient Egypt 21.

Indische Studien—Weber on the absence of caste in the Rgvedic Age 58; on liberality of princes in the Brāhmaṇa period 173; *sadasya* (a priest) 239.

Industrial Competition of Asia—C. Daniell on the nature of ancient Indian foreign trade 280.

Introduction to the History of Religion—Jevons on the cultivation of plants as one of women's contributions to civilisation 154.

Jaiminiya Brāhmaṇa—text edited with Eng. Trans. by H. Oertel on *paryanka* 138; *methi* (pillar) 145 fn.; king becoming a *seer* 155.

✕ **Jātakas, the** (Fausball's edition) :—

Abhayantara (No. 281) on iron nets 216; resting place for travellers 230.

Ahituṇḍika (No. 365) on snake-charmer 241; grain merchants 265.

Akālārāvi (No. 119) on Udicca Brahmins 238.

Ākīrti Jātaka (No 480) on Kāverīpattanam in the Drāviḍa country 181; leaves of *Indravaruṇi* tree 201.

Ālamvūsā (No. 523) on golden comb 218; *gonako* (blankets made of goat's hair) 222; *paryanka* 222; dice-board 223.

Ālinachitta (No. 156) on village of carpenters 187, 224, 243; forests supplying

- fuel and timber 203; sāṭaka 219; kṣauma 221; angavidyāpāṭhakas 239; carpenter 240.
- Ananuśocanīya (No. 328) on a life-like golden image of a girl 217, 237.
- Anabhirati (No. 185) on pearls 212; liquor-shops 227; senior pupils acting as assistant master 245.
- Andhabhūta (No. 62) on camphor 203, 278; camphor tree 204; golden dice-board 217; golden dice 217; royal high priest 242; incense merchants 265.
- Ādipta (No. 424) on Roruka, capital of Sovira 182; Raurava (= Roruka) as a port of departure 262.
- Āmra (No. 124) on droṇa, droṇī 223; Udicca Brahmins 238; magician's tricks 239; Chāṇḍāla village 243, 248.
- Āmra (No. 474) on Chāṇḍāla village 186.
- Āmracora (No. 344) on hair-dye 278.
- Ārāmadūṣaka (No. 46) on watering of plants by the gardener 213; wooden tubs or buckets for watering plants 223; leather made receptacle for sprinkling water on plants 227.
- Avikṣṇa (No. 27) on gates of Śrāvastī 182.
- Apāṇṇaka (No. 1) on Vārāṇasī 180; necklace of gems 218; coverlet 219; caravan traders: their organisation, mode and habits of life etc. 262-63, 267; dealer's sense of the wear and tear of articles 266; selling at a price fixed by his predecessor 266; ointment 278.
- Asadṛśa (No. 181) on adjustable sword 214; gold plates worth a lac pieces 217; saṃghāṭī 219; kañchuka (overcoat) 219; screen (śānī) 220; leather-case for (keeping) sword 227; bows made from the horn of sheep 229; conventional 18 śilpa's taught 239.
- Asampradāna (No. 131) on slaves being gifted away 253; slaves helping their ex-masters in distress 254; āḍhaka (a kind of measure) 272; māna (a kind of measure) 7272.
- Asātarūpa (No. 100) on drainage of Benares 180.
- Asīlakṣaṇa (No. 126) on a woman working as an astrologer 256.
- Asitābhū, Asikābhū, Asitānubhūtā (No. 234) on krakaca (saw) 215.
- Asthisena (No. 403) on kuṭikāra-sikṣāpada 230.
- Āsvaka (No. 207) Potali city in Kāśī kingdom and its gates 182.
- Avārya (No. 376) on payment of tax in cash 197; ferryman 241; ferryman advised to settle the fare by bargaining 250-51.
- Ayogṛha (No. 510) on the uncertainty of human life compared to the uncertainty of the cloth of the drunkard 227; iron-pillars used in the construction of a house 230.
- Bāveru (No. 339) on India's trade with Babylon earlier than 400 B. C. 162; golden cage 217; export of peacock by Indian merchants to Babylon 260, 262; the use of diśākāka for the guidance of pilots 262; partnership in the deal in birds from India to Babylon 267.
- Bhadraśāla (No. 465) on town-planning of Kośala capital 185; iron net 216; one pillared palace 224; use of the wooden pillar in the construction of houses 230; saṃsthāgāra (town hall) 231; sons born of a slave girl by a free man hardly regarded as free 253.
- Bhallāṭika (No. 504) on aguru (aloe) 203, 278, Śāla tree 204; flower trees and plants like Karṇikārā 206, Añkola 206; Sattali, Navamallikā, Mādhavi 206, Yuthikā 206, Kuruvaka 207, Pātali 207; Sindhuvāra (= Niṣindā) 207.

- Bherivāda** (No. 59) on trumpet-blowers 241.
- Bhīmasena** (No. 80) on gates of Benares 180; Benares famous for scents 180; Benares famous for textile fabrics 180, 220; town-planning of Benares 185; weavers' ward in Benares 220, 244, Udicoa Brahmins inheriting a stricter standard 231; conventional 18 *śilpa*'s taught at Benares and Taxila 239; boy-servant 241.
- Bhojājāneya** (No. 23) on swords 214; armour 214; gold plate worth a lac pieces 217; canopy decorated with golden stars 220; screen made of *raktakamvala* 221.
- Bhūridatta** (No. 543) on earring 218; *uṣṇīṣa* 219; *maśūraka*, seat covered with gadi 220 fn.; shoes made of cloth woven with threads of different colours and decorated with gold 221; preparation of salt by the evaporation of seawater 229; *viśavaidyas* (curer of poisonous bites) 239; people not following caste professions 246; betting with big sums 278; debtors flying to the forest or attempting to commit suicide to escape from the clutches of their creditors 279.
- Bisa** (No. 488) on *āvāsika* (caretaker of houses) 231.
- Brahmadatta** (No. 323) on umbrella made of leaves 225; one-soled shoe 226; leather undergarment 226; leather upper garment 226; *kutikāra-sikṣāpada* 230.
- Chakravāka** (No. 451) on Rohita fish 212; *Pāṭhina* fish 212; *Vāluka* (= *Bele* ?) fish 212; *Pāvuṣa* (= *Kālavāyuṣa*) fish 212; *Munja* (*Mirgela* ?) fish 212.
- Chandrakinnara** (No. 485) on *puṣpapata* (cloth with flowers embroidered on it) 200; flute or pipe 225.
- Chaturdvāra** (No. 439) on crystal palace 228; dangers of sea-voyages described 258; ship striking a hidden rock in mid-ocean 258.
- Chāmpeya** (No. 506) on *Śāla* tree 204; *Karṇikāra* flower tree 206; *Pātali* flower tree 207; *Āmra* tree 207; *Jamvu* (blackberry) tree 208; earring set with jewels 218; *keyūra* (bracelet on the upper arm) 218; dug-outs 272; snake-charmer 241; *Brāhmaṇa* as snake-charmer 246.
- Chedi** (No. 422) on *Svātivatī* city in the Chedi kingdom 183; royal high priest 242.
- Chitrasambhūta** (No. 498) on *Avantī* city 183; *Chandāla* village 186, 243, 248; coverlet for chariot with designs on it 219; sight of a *Chandāla* forebodes evil 249; even food seen by a *Chandāla* is not to be taken 249.
- Chullakāśreṣṭhi** (No. 4) on linen flax 202; *chīvara* (dress of the Buddhist monks) made by the monks themselves 219; *kāyavandhana* 219; tent 221; grass-cutter 240; attendant 241; marriage of a slave with a free woman hardly improved his status 253; navigability of the Ganges by crafts of considerable size right up to Benares 264; cornering in hay 266; dealing in futures 266; corporate purchase of a ship's cargo by many merchants 266; case of barter 267; *kākapika* (a medium of exchange) 268; *kārṣāpāna* (a medium exchange) 268; signet rings as deposit or security (*satyañkāra*) 271; eight *kārṣāpānas* as cart-hire from Benares to the port near by 273.

- Chullanandika** (No. 222) on Brahmin working as hunter 246.
- Chullapadma** (No. 193) on gates of Benares 180.
- Dadhivāhana** (No. 187) on paraśu (axe) 215; vāsi-paraśu 215; screen made of silk-cloth 221.
- Durddada** (No. 180) on corporate life in Benares 186; Karpikāra flower tree 206; Kaptakurapda flower tree 206; cloth dyed in yellow with karpikāra flower 229; cloth dyed in blue with kaptakurapda flower 229.
- Daśabrāhmaṇa** (495) on fruit trees: Āmra 207, Jamvu 208, Vilva 208, Vadarī 208, Haritaki 208, Āmalaki 208, Vibhītaka 208; Piyāla 208, and Lakuca 203; condemnation of Brahmins engaged in tillage and other callings 238, 246; forest-guard 241; Brahmins working as physician, goatherd, merchant, charioteer, agriculturist, meat-seller, caravan-guard, hunter, dealer in fruits, ornaments etc., 246; caravans electing their chief and appointing caravan-guard for safety 263.
- Daśaratha** (No. 461) on sandals made of grass 225.
- Daśārpa** (No. 401) on Daśārpaka famous for her swords 215; magician's tricks 239.
- Devadharma** (No. 6) on Vārāṇasī city 180; tent 221; paryanka 222.
- Dharmadhvaṇa** (No. 384) on sufferings of mariners due to shipwreck in midocean 258; the use of diśakāka for the guidance of pilots at sea 262.
- Dhūrākārī** (No. 413) on enclosed pasture 190; goatherd 240; Brahmin working as goatherd 246.
- Durājāna** (No. 64) on customary fixed price: meek as a 100 piece slave-girl 266; kārṣāpapa 268; 100 kārṣāpapas, presumably of silver as the customary price of a slave-girl 273.
- Durmedha** (No. 122) on conventional 18 śilpa's taught 239.
- Durvalakāṣṭha** (No. 105) on crowbar 215; hand-punkhā 225.
- Dyūta** (No. 260) on gold vessels 216; golden bedstead 217; payment of tuition fees after the completion of studies obtained by begging 239; 14 niṣkas as fee paid to the teacher 245; 272; niṣka (a medium of exchange) 269.
- Ekaparṇa** (No. 149) on Vaiśālī city, 183; Udicca Brāhmins 238; cowherd 240; aśvapālaka 240; hastipālaka 240.
- Ekarāja** (No. 303) on string loop (śikya) 225.
- Gaṇdatindu** (No. 520) on rājakammika (tax-collector) 117; leather-case for (keeping) sword 227; Valipratigrāhaka (tax-collector) 242; half a māṣaka as the daily wage of a female water-carrier 272—73; oppressive taxation 279.
- Gangamāla** (No. 421) on a daylabourer and his ladylove drinking wine together 227; wages of free labourers settled by higgling and haggling 250; the gay though frivolous life of the day labourer described 251; day labourers were sometimes paid in board and lodging 251; slaves treated as members of the family and living virtuous lives 254; woman working as water-carrier 256; quarter kārṣa and half a kārṣa as media of exchange 268.
- Garga** (No. 155) on omen readers 239; valipratigrāhaka 242; Brahmin as hawker 246; small traders carrying their goods from village to village on their own heads 265.

Gandhāra (No. 406) on Mithilā 183; caravan trade 262—63.

Ghaṭa (No. 454) on Asitāñjana city 180; Uttara Mathurā 183; hares made of brass, silver and gold 216; hare made of stone 228; hare made of coral and precious stones 229, 237; washerman 240; wrestler 241; Dvārāvati as a port of departure 262.

Giridanta (No. 184) on aśvanivandhika 240.

Godhā (No. 325) on ādraka (ginger) 202; jīraka (cumin-seed) 202; marica 202; pippali (pepper) 202; cloth dyed red 229.

Gṛdhra (No. 164) on walls surrounding Benares city 180.

Gṛhapati (No. 199) on the misconduct of a village headman 188; corporate loan by villagers 189; sufferings caused by famine in a Kāśī village 280.

Grāmañichanda (No. 257) on paryanka 222; mat 224; vāstu-vidyācārya 230; nalakāra 240; kārṣāpaṇa 263; 24 kārṣāpaṇas as the price of a pair of ox 273.

Guṇa (No. 157) on nivāsana 219; prāvaraṇa 219; seats made of cloth 220; pādapuñchhanam 220; Benares cotton cloth fetching a 1000 pieces 220; monks dying their chīvara 229; cloth dyed in yellow with karpikāra flower 229; sātakas worth 1000 pieces of copper 274.

Guptila (No. 243) on ācārya 239; caravan trade 262—63.

Harimāta = Haritamapduka (No. 239) on catching fish in a cage-like structure of cane or bamboo-splints called kumina 212, 225.

Hastipāla (No. 509) on royal high priest 242.

Illisa (No. 78) on Śarkarā, a nigama near Rājagṛha 182; bhastā (cloth-made bags

to store up grains) 221; stool 222; basket 224; changoṭaka (small basket) 225; liquor-cup 225, 227; dried fish taken along with liquor 227; surā 227; a glass of ordinary wine was worth only one māṣā 228; seven-storyed houses 230; māṣaka and suvarṇa as media of exchange 268, 269; a cup of surā was worth only one kārṣāpaṇa 273.

Indrasamānagotra (No. 161) on sayyāphalaka 222; pitcher 225.

Indriya (No. 423) on Brahmin working as hunter 246.

Jarudapāna (No. 256) on metals: iron, copper, lead, tin, silver and gold 209; vaiduryamaṇi 209; pearls 212; guild of caravan traders 242; concerted commercial enterprise by merchants of Śrāvastī 267.

Javanahamṣa (No. 476) on mat 224.

Jayaddviṣa (No. 513) on foundation of Khullakalmāsa city by a king 183; increase of royal domain by colonisation 191; forests as the habitation of Aṭaviya 203—04; forest-guard 241.

Kakkara (No. 209) on Aśvakarṇa tree 204; Vibhītaka tree 208; catching birds in traps with the help of decoy birds 212; traps made of wool for catching birds 221.

Kalanduka (No. 127) on run away slaves 236.

Kalingavodhi (No. 479) on Dantapura city 181, 262; Śākala city 182; lāñchhanamudrā (seal) 216.

Kandagalaka (No. 210) on Khadira tree 204.

Kapavera (No. 313) on nagarapāla 242; the serving maids of courtesans 257; 1000 kārṣāpaṇas per night as the fee of a courtesan 272.

- Kapota** (No. 42) on ādraka (ginger) 202; jiraka (oumin seed) 202; colander 215; cage-like structure made of straw for birds to live in 225; cook 241.
- Karkata** (No. 267) on fork 215.
- Kaṭāhaka** (No. 125) on wooden plank used as a slate for writing 223; run away slaves 256; wooden spoon 223; slaves as valet or footman to his master's son or as store-keeper to his master 252; slave-girl's son patted and permitted to learn writing and handicrafts 254; slaves fed on a slave's fare and at the slightest fault beaten, branded and imprisoned 254—55.
- Kauśāmvi** (No. 428) on lopakāra (manufacturer of salt) 229, 240.
- Kāka** (No. 140) on gold vessels 216.
- Kālavāhu** (No. 329) on golden cage 217; golden cup for a bird 217.
- Kāma** (No. 466) on the extension of arable land by fresh clearance of forests 190; survey of the fields by royal officers 196; uparājjam (vicerealty) 197; valisādhaka (tax-collector) 197; irrigation 200.
- Kāmanīta** (No. 228) on gold plate worth a lac pieces 217; bhūtavaidya (conjurer of evil spirits) 241.
- Kāmavilāpa** (No. 297) on Benares famous for textile fabrics 189; Benares famous for sātakas 220.
- Kāśāya** (No. 221) on town-planning of Benares city 185; corporate life of the citizens of Rājagṛha 186; decision of the majority prevailed in the village council 189 fn.; ivory 203; gandha-kāśāya sātaka 219-20; ivory bangles 228; ivory-workers' ward in Benares 228; 244; cloth dyed in golden colour 229; dantakāra (ivory-worker) 240.
- Kāṣṭhāhāri** (No. 1) on finger-ring 218.
- Keśava** (No. 346) on scented rice (śali) 271.
- Khadirāṅgāra** (No. 40) on gates of Benares city 180; brazen vessels 216; seven-storeyed houses 230; innapannani (= I. O. U.) 271; 275; the debtors getting back the I. O. U. when the loan was paid back 275.
- Khaṇḍapāla** (No. 54) on Benares famous for her textiles 180, 220; aguru 203; 18; Karpikāra flower plant 206; Aśoka flower tree 207; Pātali flower tree 207; Āmra tree 207; sword 214; golden trappings for horses 217; earring 218; keyūra (bracelet for the upper arm) 218; golden bangles set with pearls and precious stones 218; bow made from the horn of sheep 229; snāpaka (bath-attendant) 242; arthadharmānūsāsaka 242; viniścayāmātya (judge) 242.
- Kharamvara** (No. 79) on a border village in Kośala 187; village headman appointed by the king 183; misconduct of the village headman 188; revenue collector of a frontier village 197.
- Kharaputra** (No. 386) on performer of spells 241.
- Khulladhanurgraha** (No. 374) on kāmśya sthālī 216; sthālī 225.
- Khullahamśa** (No. 533) on villages inhabited solely by hunters 183; niṣāda 240; villages inhabited solely by fowlers 243.
- Khullakalinga** (No. 301) on Dantapura city on the Kalinga coast 181, 262; Potali city in the Aśwaka kingdom 182.
- Khullnārada** (No. 477) on śimula or cotton-silk 202; Śimula or cotton-silk tree 204; cloth stiffened with starch 229—30; karamara, a person captured by robbers and reduced by them to slavery 252.

Khullavodhi (No. 443) on *chivara* (dress of the Buddhist monks) made by the monks themselves 219.

Kinphhando (No. 511) on *Nipa* (= *Kadamva*) flower tree 206; *kirita* (tiara for the head) 217; *keyūra* (bracelet for the upper arm) 218; *angada* (bracelet for the upper arm) 218; royal high priest 242.

Kimśukopama (No. 248) on *Kimśuka* flower tree 206.

Komāyaputra (No. 299) on a two-storeyed palace 230.

Kouśeyi (No. 130) on copper vessels 216.

Kṛṣṇa (No. 29) on *kārṣāpapa* as a medium of exchange 268; 24 *kārṣāpapas* as the price of a pair of ox 273; a young calf sufficient for house rent for a certain period 273; two *kārṣāpapas* as the hire for an ox in carrying a cart across a shallow river 273.

Kṛṣṇa (No. 440) on the leaves of *Indravaruṇi* tree 201.

Kṛṣṇadvaipāyana (No. 444) on the drainage system of *Kosambi* city 181; *krakaca* (a saw) 215.

Kṣhāntivādi (No. 313) on *lākṣā* (lac) 203.

Kṣhurapra (No. 255) on forests as the habitation of the *Aṭaviyas* 203—04; caravans appointing forest-guards for safety 263.

Kuddāla (No. 70) on *parṇika* (grower of green vegetables) 201, 239; *alāvu* (gourd) 201; *kuśmānda* (pumpkin) 201; cucumber 201; *śāka* (pothebs) 201; spade 215; thatched house 230.

Kukku (No. 396) on wooden pillars used in the construction of houses 230.

Kukkura (No. 22) on leather coverlet for chariots 226; leather-made fittings of chariots 226; *tulā* (scale) used by way of a simile 271.

Kulāyaka (No. 31) on the corporate life of villagers 188—89; tent 221; *phalakāsana* (bench) 222; *dharmaśālā* 230; persons reduced to slavery for their crimes 252.

Kulmāṣapīṇḍa (No. 415) on garland-maker 241; guild of garland-makers 242.

Kumbha (No. 512) on *chāṭi* (vat) 226.

Kumbhakāra (No. 408) on *Dantapura* city 181, 262; *Kāmpilya* city 181; *Mithilā* city 182.

Kuṇḍaka-kukṣi-saindhava (No. 254) on gold *sthāli* 216; *sātaka* 219; canopy decorated with golden stars 220; screen 220; *sthavikā* (purse) 220; *śāli* (screen) 220; carpets 221.

Kuṇḍala (No. 536) on rivers dammed for purposes of irrigation 200; *māluva* (a kind of sweet potatoes) 201; sandalwood 203; *trees*: *Tirita*, *Kuṭaja*, *Sāla*, *Tilaka*, *Bhūrjja*, *Muchilinda* 204; *Kuravaka*, *Chetasa*, *Bajuda*, *Punnāga*, *Priyaka*, *Āsana*, *Śarala*, *Kārāgula*, *Padmaka*, *Devadāru*, *Kakudha* = *Kakubha* = *Arjuna*, *Kachchikāra*, *Tuna*, *Kapavera*, *Koraṇḍa*, *Kovidāra*, *Anangana*, *Anavajja*, *Surichir*, *Bhagini*, *Dhanukārīka*, *Tālisa*, *Koṭṭa* 205; *Cocha* 206; *flower trees*: *Karṇikāra*, *Kimśuka*, *Añkola*, *Atimukta*, *Yodhi* (= *Yuthikā*), *Ketaki* and *Vakula* 206; *Champaka*, *Aśoka*, *Nāgarukha* (= *Nāgakeśara*), *Vanamallikā*, *Tagara*, *Bhaṇḍi* (= *Ghep-tu*), *Jāti* and *Sumanā* 207; *Sandalwood*, *Priyanga* and *Usira* (= *Khaskhas*) 209; silver 209; *haritāla* (yellow orpiment) 209; *maṇaśilā* 209; *hingulaka* 209; *mapikāra* 217, 240; *phalakāsana* (bench) 222; *pupph-chhaddak* (sweeper) 241.

Kuṇḍaka-pūpa (No. 109) on the corporate life of the citizens of *Śrāvastī* 185—86; on free labourers living from hand to

month 251; udanka (= Pali Ulanka), a measure for liquids 271.

Kuranga-mīga (No. 21) on methods of hunting 211.

Kuru = Bharu (No. 213) on architect 240.

Kurudharma (No. 276) on Dantapura city on the Kalinga coast 181, 262; Indapattha city 181; Brahmin village 187, 243; land of ordinary landholders as distinguished from royal domain 191; royal share of the produce 196; survey of fields by royal officers 196; public granary 197; essence of sandal-wood 203; golden necklace worth 1000 pieces 218, 274; royal high priest 242; rajjuka (surveyer) 242; measurer of corn 242; essence of sandal-wood worth a lac pieces 274, 278; suffering caused by famine in Kalinga 279—80.

Kuśa (No. 531) on Śākala city 182; sandal-wood powder as a toilette for the breasts 203, 279; sandal-wood oil 203, 278; golden image of a girl 217, 237; necklace of niṣka coins 218; mekhalā 218; cloth embroidered with gold 219; earthen pots with female figures engraved on them 226; earthen dolls for children 226; painted punkhā 237; karmāra (smith) 240; nalakāra 240; guild of smiths 242; industrial apprentice 245; prince apprenticing himself in succession as a potter, basket-maker, florist etc., without any social degradation 247; prince fashioning a golden image 247; Brahmin taking as his wife the childless wife of a king without losing his caste 248; niṣka 239; kalka 278, 278 fn.

Kuśanāli (No. 121) on an one-pillared palace 224; use of the wooden pillar in the construction of houses 230,

Kūṭavāṇij (No. 218) on arthadharmānuśāsaka 242; viniścayāmātya (judge) 242; partnership of two traders of Śrāvastī 267 and of two traders of Benares 267.

Lakṣaṇa (No. 11) on protection of the crops 199; method of hunting 211.

Lānguleṣā (No. 123) on ācārya 239.

Lānguṣṭha (No. 144) on Udicca Brahmins 238.

Lola (No. 274) on cage-like structure made of straw for birds to live in 225; cook 241.

Lośaka (No. 41) on Gambhīrāpattana 181, 262; corporate life in the village 189; kāncāra 216; a seven-storeyed crystal palace 228; ācārya being maintained by the guardians of the children taught 239; distress of mariners when their ship struck a rock in mid-ocean 253.

Louhakumbhī (No. 314) on iron jar 215.

Madyika (No. 390) on Benares famous for her textile fabrics 180, 220.

Mahāhaṇṣa (No. 534) on Benares famous for her textile fabrics 180, 220; golden seat (Pāli koṭṭhā) 217; chaṅgoṭaka (small basket) 225.

Mahājanaka (No. 539) on Champā city surrounded by a wall pierced with gates with towers over them 180; Mithilā city 182; town-planning of Mithilā 185; description of the manufacture of arrows 214; illi (small sword) 215; bracelet on the lower arm 218; Kauṭamvara famous for her cloth 221; blankets made of goat's hair 222; description of wooden sandals 224; winnowing basket 225; ship containing seven caravans with their beasts 259; sea-voyage to Suvarṇabhūmi (= Burma ?) 261; pearls, gems and diamonds as exports from India to Burma 262; navigability of

- the Ganges by crafts of considerable size from Champā down to the sea 264.
- Mahākapi (No. 516) on Prahmin peasant 238, 243.
- Mahākapi (No. 467) on chaitya 231.
- Mahākṛṣṇa (No. 469) on Brahmins working as robbers 246.
- Mahāmangala (No. 453) on Saṃthāgāra (town hall) 231 ; omen-readers 239.
- Mahāmayūra (No. 491) on peṭikā (wooden boxes) 223—24.
- Mahāpingala (No. 240) on hammer 215 ; crushing the subjects with taxation like sugarcane in a mill 279.
- Mahānāradaśyapa (No. 544) on women working as water-carriers 256 ; merchantship going to the bottom of the sea 258 ; tulā (scale) used by way of a simile 271 ; sarṣapakalka 278—79.
- Mahāsāra (No. 92) on female slaves looking after the jewels of the ladies in the royal harem 252 ; a man who has never seen (i.e. used) in his life a chair or a bed-stead 279.
- Mahāśīlavaja (No. 51) on gates of Benares city 180 ; sword 214 ; gold drinking-pot 216 ; gold vase 216 ; gold box for keeping scents 217 ; pillows 220 ; chatur-jātiya gandha 278, 278 fn.
- Mahāsudarśana (No. 95) on Kuśināra city surrounded by a wall 181.
- Mahāsutasoma (No. 537) on Indapattha 181 ; Kammasadamma city growing out of a village 183 ; king's right of increasing the taxes at will and of remitting them 196 ; senior pupil acting as assistant master 245.
- Mahāswapna (No. 77) on the different divisions of a kingdom 197 ; vṛlhi (rice) 200 ; yava (barley) 201 ; godhūma (wheat) 201 ; mudga 201 ; māsa 201 ; sugarcane 201 ; alāvu (gourd) 201 ; Madhuka tree yielding Mahuā flower 207 ; bell-metal vessels 216 ; gold plate worth a lac pieces 217 ; stool 222 ; rope 225 ; pitcher 225 ; manufacture of molasses from sugarcane juice 229 ; Udicca Brahmins inheriting a stricter standard 238 ; royal high priest 242 ; half kārṣa and kārṣāpāna as media of exchange 268 ; sandal-wood worth a lac pieces 274 fn. ; king's right to impose forced labour limited to the confines of his estates 275 ; oppressive taxation 279 ; a dream interpreted as foreboding famine in Kalinga 280 fn.
- Mahāśwāroha (No. 302) on Benares famous for her textile fabrics 180, 220 ; a border village in Kāśī 187 ; corporate life of villagers 189 ; gold vessels 216 ; gold vase 216 ; Benares cotton cloth fetching a lac pieces 220, 274 ; oppressive taxation 279.
- Mahāunmārga (No. 546) on Benares famous for her textile fabrics 180, 220 ; town-planning of Mithilā 185 ; foundation of village for military purposes 188 ; corporate life of villagers 189 ; Pāṭhina (Voyāla) fish 212 ; armour 214 ; iron helmet 214 ; sikāya-samayā (a sword of high quality) 215 ; Benares cloth fetching a lac pieces 220 ; tanning and softening leather by the application of kṣāra 226 ; mason 230 ; kṛdāśāla 231 ; underground palace 232 ; wooden roofing of the underground palace described 233 ; golden image of a girl made by the royal sculptor 237 ; woman working as a guard over a cotton-field and spinning thread from clean cotton 256 ; life-like paintings of elephants, horses, chariots and various objects of natural scenery 257 ; karmāra (smith) 240 ; carpenter

240 ; mason 240 ; kundakāra (sculptor) 236, 240 ; carmakāra 240 ; painter 240 ; tunnavāya (tailor) 241 ; conventional 18 guilds 242 ; guild of wood-workers, of smiths, of leather-workers and of painters 242 ; ornaments of prostitutes 257 ; Dvārāvati as a port of departure 262 ; building of 300 ships 259 ; ardhamāṣaka and kārṣāpapa as media of exchange 268 ; half a māṣaka of meat was sufficient food for a lizard 273 ; eight kārṣāpapas as the price of a decent ass 273 ; Benares fabrics worth a lac pieces 274 ; scent called sarvasaṇhāraka 278.

Mahāvāṇij (No. 493) on Benares famous for her textile fabrics 180, 220 ; blankets 221 ; woolen shawl 221—22 ; uddiyāne ca kamvala (blankets made of the hair of udbiṛāla ?) 222 ; caravan-traders having a common chief 266 ; partnership of the traders of Śrāvastī 267.

Mahāvodhi (No. 528) on Udicca Brahmins 238.

Mahilāmukha (No. 26) on sthālī 225 ; hastipālaka 240.

Mahotkrośa (No. 436) on Kadamva flower tree 206 ; tortoises 212.

Makhādeva (No. 9) on Mithilā city 182 ; pair of pincers made of gold 217 ; barber 240.

Mapicora (No. 194) on the popular belief that famines are caused by the sins of rulers 280 fn

Mangala (No. 87) on sātaka 219 ; peṭikā (wooden boxes) 223—24 ; Udicca Brahmins 238 ; omen readers 239.

Maṇikanṭha (No. 253) on Ālavī city 180 ; kṣṭhikārasikṣāpada 230.

Maṇikundala (No. 351) on earring set with jewels 218 ; paryanka 222.

Manoja (No. 397) on methods of hunting 211 ; hunting lion from a māchan 212 ; gold plate worth a lac pieces 217 ; golden sandals 217.

Markaṭa (No. 173) on Tāla tree 208 ; phala-kāsana (bench) 222.

Maṣaka (No. 44) on a border village in Kāśī kingdom 187 ; tent 221.

Matsya (No. 34) on catching fish from tanks and rivers in nets 212 ; kāya-vandhana 219 ; bathing cloth 219.

Matsya (No. 75) on box made of sandal-wood 224 fn. ; suffering caused by famine due to the failure of rains 279.

Matsyadāna (No. 288) on receptacles made out of the leaves of trees 225 ; māṣaka as a medium of exchange 268 ; seven māṣakas as the price of a big Rohita fish 273 ; kuṭimvaka or kuṭamvika (private landowner) 191.

Mayūra (159) on villages inhabited solely by hunters 186, 243 ; catching peacocks in traps with the help of decoy birds 212 ; niṣāda (hunter and butcher) 240.

Māṃsa (No. 315) on town-planning of Śrāvastī 185, 244 ; hunters going to the market with cart-loads of flesh to sell 211 ; carts 222 ; cooks' quarter in Śrāvastī 244.

Mātṛpoṣaka (No. 455) on trees : Śallakī, Kūṭaja and Visa 204, Kuruvinda (= Muthā or Vādāma tree) 208 ; keyūra (bracelet on the upper arm) 218 ; elephants made of stone 228 ; stone image of Bodhisattva as elephant 237.

Mātanga (No. 497) on Chāṇḍāla village 186, 243, 248 ; guggulu (bdellium) 203, 278 ; gold vessels 216 ; gold pitcher 216 ; gold stick 217 ; gold sandals 217 ; seven-storied house 230 ; sight of a chāṇḍāla foreboding evil 249 ; partaking of his food even without know-

- ledge leads to social ostracism 249;
 chaturjātiya gandha 278, 278 fn.
- Mitrāmītra (No. 197) on cloth-made bags
 for keeping shoes 221.
- Mitravinda (No. 82) on a crystal palace
 228.
- Mṛdulakṣapā (No. 66) on spade 215; sāta-
 ka 219; sayyāphalaka 222; wooden yoke
 for carrying loads (Pāli kācho or kajo)
 223; basket 224; large water jar 225;
 drinking pot 225; thatched house 230.
- Mupika (No. 30) on pig-culture 211.
- Nakṣatra (No. 49) on astrologers 239;
 soothsayers 239; omen-reader (nimitta-
 pāṭhaka) 239.
- Nakula (No. 165) on śrepi-bhāṇḍana
 (quarrel among the guilds) 243.
- Nalinikā (No. 526) on Śāla, Tilaka and
 Bhūrjja trees 204; *flower trees*: Karpi-
 kāra 206, Pāṭali 207; *fruit trees*: Āmra
 207; Jamvu (blackberry) 208; earring
 set with jewels 218; necklace 218;
 mekhalā 218; Udicca Brahmins 238.
- Nanda (No. 39) on spade 215; basket 224;
 customary fixed price: meek as a 100
 piece slave-girl 266; kārsāpaṇa 266; on
 slaves enjoying much confidence of their
 masters: they were told where the
 master's secret treasure was kept 254.
- Nandikamṛga (No. 385) on the corporate
 life of the villagers 189 fn.; king's
 right to impose forced labour confined
 to the limits of his estates 276.
- Nāmasiddhika (No. 97) on slave-girls put
 on hire to work for others 252; and on
 failure to earn any wages were beaten
 255.
- Nānāchhanda (No. 289) on earring set
 with stones 218; wooden pestle and
 mortar 223; winnowing basket 225;
 angavidyāpāṭhakas 239; royal high-
 priest 242; slaves consulted as to the
 nature of the boon the master should
 beg of the king 254.
- Nemi (No. 541) on a crystal palace 228;
 adulteration of food stuffs 266; use of
 false weights 266; for the royal house-
 hold prices were fixed by the court-
 valuer without appeal 242, 266.
- Nyagrodha (No. 445) on tunnavāya (tailor)
 241; guilds having a common chief
 who is also the royal treasurer 243;
 Vaiśya taking part in administration
 246.
- Nyagrodhamṛga (No. 12) on the corporate
 life of the villagers 189 fn.; lac 203; tail
 of a yak 203; methods of hunting 211
 fn.; king's right to impose forced labour
 limited to the confines of his estates
 276.
- Padma (No. 261) on town-planning of
 Śrāvastī city 185, 244; florists' quarter
 of Śrāvastī 244.
- Palāśa (No. 307) on *trees*: Aśvattha and
 Palāśa 204.
- Palāśa (No. 370) on *trees*: Palāśa 204 and
 Tinduka 208.
- Palāyi (No. 229) on gates of Taxila 183.
- Pañchāudha (No. 55) on mūlā (radish)
 201; chāṇi (vat) 226; angavidyā-pāṭhaka
 239.
- Pañchanpasatha (No. 490) on forests as the
 habitation of sannyasins 203.
- Parantapa (No. 416) on finger ring 218;
 performer of spells 241.
- Parṇika (No. 702) on parṇika (grower of
 green vegetables) 201, 239; alāvu
 (gourd) 201; kuṣmāṇḍa (pumpkin) 201;
 śāka (pot herbs) 201; forests supplying
 pot herbs 203; chaṇoṭaka (small
 basket) 225.
- Parasahasra (No. 99) on Udicca Brahmins
 232.

- Padakusāla-mānava** (No. 432) on drinking wine forming part of festive ceremonies 227; *Surā* 227.
- Pāpāra** (No. 518) on town-planning 184—85; sufferings of mariners due to shipwreck in mid-ocean 258; *Karamvikapattana* as a port of departure 262; 800 merchants as fellow-passengers in a ship 266.
- Pāṇya** (No. 459) on village headman powerless before villagers 188.
- Picumanda** (No. 311) on *Picumanda* (= *Neem*) tree 204—05.
- Pūrpapātri** (No. 53) on finger-ring 218.
- Puṣparakta** (No. 147) on cloth dyed with safflower (*kuśumbha*) 229; custom of wearing cloth after it has been curled into a thousand folds 230.
- Putādūsaka** (No. 280) on receptacles made out of leaves of trees 225; gardener 241.
- Rathalaṭṭhi** (No. 332) on royal high-priest 242.
- Rohantamṛga** (No. 501) on villages inhabited solely by hunters 186, 243; earring set with stones 218; golden kinkipī 218; *niṣādā* 240; money-lending as one of the four honest callings 274.
- Rohiṇī** (No. 45) on female slaves pounding rice 252.
- Romaka** (No. 277) on *jīraka* (cumin seed) 202; *marica* 202.
- Ruru** (No. 482) on golden basket 217; *Iṇṇapannani* (= I. O. U.) 271, 275; the debtor getting back his I. O. U. when the loan was paid back 275; debtors flying to the forests or attempting to commit suicide to escape from the clutches of his creditors 279.
- Saḍḍanta** (No. 514) on *alāvu* (gourd) 201; *kuṣmāṇḍa* (pumpkin) 201; *ervāruka* (a kind of cucumber) 201; *Kadalī* tree 208; method of capturing elephants, the precursor of the modern *Khedā* system 212; *vāsi* (adze) 215; hammer 215; crowbar 215; spade 215; grass-cutter's knife 215; auger 215; *siṅghāṭaka* 215; leather-belt for elephant 226; leather-shoe for elephant 226; leather umbrella for elephant 226; leather strap to bind a dog 227; leather bag for keeping wealth 227; seven-storeyed house 230.
- Saktigulma** (No. 503) on a village of 500 robbers 187, 243; *Madhuka* tree yielding *Mahū* flower 207; *Tinduka* tree 208; *Piyāla* fruit tree 208; *Kāra*, a shrub 203; robbers looting the caravans 263.
- Saktubhastrā** (No. 402) on fishermen casting their net in high seas 258 fn.; prices of slaves varied according to their accomplishments, good birth and beauty 274.
- Sākuna** (No. 36) on a border village in *Kośala* 187; successive stages of agriculture 198; thatched house 230.
- Samgrāmāvacara** (No. 182) on the walls surrounding the city of Benares 180; watch-towers over the gates of Benares 180.
- Samkalpa** (No. 251) on trees: *Aśvattha* 204 and *Madhuka* 207; *Nyagrodha* flower tree 207; *Udaṃvara* fruit tree 208.
- Sammodamāna** (No. 33) on *chumvaṭaka* (a ring made of straw over which coolies keep the load they are carrying on their head) 225.
- Samṛddhi** (No. 167) on *antaravāsaka* 219; *uttarāsanga* 219.
- Samudravāpij** (No. 466) on boats 222; wine prepared out of the juice of sugarcane 228; carpenter 240; guild of wood-

- workers 242; miseries of mariners shipwrecked on an island 258; ship accommodating 1000 families of carpenters 259; navigability of the Ganges by crafts of considerable size from Benares down to the sea 264.
- Sandhibheda (No. 349) on forests as pastures 202—03.
- Sankha (No. 442) on ships 222; shoes fetching 500 and even 1000 pieces 226; Brahmin as trader 247; sufferings of mariners due to shipwreck in mid-ocean 258; a ship 1120 cubits in length, 560 cubits in width and 140 cubits in depth 259; ship having three masts (kūpaka) 259.
- Sankhapāla (No. 524) on *snvarṇa māṣaka* (a medium of exchange) 268.
- Sankhadhma (No. 60) on blower of conch-shells 241.
- Sarabhaṅga (No. 522) on armour 214; Kañchuka (overcoat) 219; bow made from the horn of sheep 229; Brahmins as archers 246.
- Sarvadampatrā (No. 241) on performer of spells 241.
- Sasā (No. 316) on iron-rod used in roasting meat 215; tent 221.
- Satadharmā (No. 179) on Udicca Brahmins 238.
- Satapatra (No. 279) on Kuṭimvaka or Kuṭamvika (private landholders) 191.
- Satyamkila (No. 73) on golden cage 217; crystal cave for a mouse 228; Udicca Brahmins inheriting a stricter standard of life 238.
- Savaka (No. 309) on mango tree yielding fruits in all seasons 207—08; royal high-priest 242.
- Sālitaka (No. 107) on *nālikā* (a kind of measure) 272.
- Sālaka (No. 286) on pig-cultures 211.
- Sāketa (Nos. 68 and 237) on Sāketa city 182.
- Sālikedāra (No. 484) on large holdings (of 8000 acres) 190; royal domain 190—91; land gifted away 192; protection of the crops 159; catching birds in traps made of the hair of horse's tail 212, 222.
- Serivāṇij (No. 3) on Andhapura city 180; gold plate worth a lac pieces 217; free labourers living from hand to mouth 251; maid-servant 255; hawkers (*kachchhaputo vāṇijo*) 265.
- Sīlamīmāṃsā (No. 86) on *ahitundika* (snake-charmer) 241; *hirappayaka* (cashier or officer of the treasury) 242; *kārṣāpaṇa* 268.
- Sīlāniśaṃsa (No. 190) on sufferings of mariners due to shipwreck in mid-ocean 258; ship having three masts (kūpaka) 259; the navigability of the Ganges by crafts of considerable size right up to Benares 264.
- Sīlavannāga (No. 72) on town-planning of Benares 185; saw 215; blankets 221; ivory-workers' ward in Benares 228, 244; ivory-worker 240.
- Sindhacharma (No. 189) on small traders carrying their goods from one village to another on the backs of asses 265.
- Sivi (No. 499) on Ariṣṭapura city in the Sivi country 180; four gates of Ariṣṭapura 180; coverlet for elephants inlaid with gold 219; cloth of the Sivi country famous for its high quality 220.
- Somadatta (No. 211) on Brahmin peasants 238, 246.
- Soṇaka (No. 229) on *illi* (small sword) 215; coverlet for elephant inlaid with gold 219; basket 224; sufferings of mariners due to shipwreck in mid-ocean 258.
- Sōpananda (No. 532) on Benares famous for textile fabrics 180, 220; *uṣṇīṣa* 219;

- piloting a ship in an ocean (*mahārṇava*) 257, 258.
- Soumanasya (No. 505) on *alāvu* (gourd) 201 ; *kuṣmāṇḍa* (pumpkin) 201.
- Spandana (No. 475) on a village of carpenters 187, 243 ; Dhava tree 205 ; chariots 222 ; Brahmin working as a cartwright 246.
- Śrīgāla (Nos. 113 and 142) on the drainage of Benares 180 ; barber 240 ; cowryshell as a standard of value 268.
- Śrīgāla (No. 148) on key (*Pāli avāpuraṇa*) 215-16.
- Śrīkālakarpī (No. 382) on slaves treated as members of the family and leading virtuous lives 254.
- Sūchī (No. 387) on a village of 100 families of smiths 187, 243 ; corporate life of villagers 188 ; spear 214 ; *paraśu* (axe) 215 ; *vāsī* (adze) 215 ; fishing hook made of iron 215 ; iron goad 215 ; fine needles with case 215 ; *kāṃsya sthālī* 216 ; guild of smiths 242 ; alderman of a guild 243.
- Sudhābhajana (No. 535) on *vrihi* (rice) 200 ; *chinaka* (= Sans. *vrihibheda*) 201 fn. *taṇḍulā* 201 fn. ; *śyāmaka* 201 fn. ; *hareṇukā* 201 fn. ; *māluvā* (a kind of sweet potatoes) 201 ; Bhanga, *Aśvattha*, *Sāla*, *Tilaka*, *Soubhanjana* (= *Sajinā*), *Varuṇa*, *Bhūrjja*, *Vediśa*, *Veṇu* and *Muchakunda* trees 204 ; *Sthalapadma* and *Karṇikāra* flower plants 206 ; *flower trees* : *Lodhra* and *Ketaki* 206 ; *Madhuka*, *Nyagrodha*, *Pātali* and *Sindhuvāra* 207 ; *fruit trees* : *Jamvu* and *Keka* = *Koka* ? = *Kharjura*, *Tindaka* (*Gāva* or *Ebony*), *Kadalī* and *Mocha* (= *Aṣṭikadalī*) 208 ; *Kuśa* and *Uśra* (= *Khaskhas*) 209 ; *fishes* : *Rohita*, *Pāṭhina* (*Voyāla*), *Sākula* (*Sol*), *Sṅgi* (*Singi*), *Kākiṇṇa* (*kaṅkley*?), *Āligargara*, *Savakra*, *Kākamatsya* and *Satarakra* 212 ; coarse cloth made from the threads spun out of the roots of trees ; dangers and risks of maritime trade described 258 ; the five *iti*'s 280 fn.
- Suhanu (No. 158) on *sarvārthachintaka* 242 ; court-valuer 242 fixing prices of articles for the royal household without appeal 266 ; partnership in the deal in horses imported from Sind to Benares 267.
- Sujāta (No. 252) on *kuṭimvaka* or *kuṭamvika* (private landholders) 191 fn. ; gold plate 216—17 ; slaves ill treated and even beaten by *Anāthapīṇḍaka*'s daughter-in-law 255.
- Sūkara (No. 153) on hand-punkhā 225 ; marble stair-case 228, 234.
- Sukhavihāri (No. 10) on Anupiya city in Malladeśa 180 ; mat 321.
- Sulasā (No. 419) on 1000 *kārṣāpaṇas* as the fee of a courtesan for one night 272.
- Sunaka (No. 242) on leather strap to bind a dog 227 ; barter 267.
- Supāraka (No. 463) on *Bhṛgukachchha* (= Broach) city 180 ; diamond 209 ; *kṣhuramāla* fish (= sword-fish ?) 212 ; corals 212 ; *jalaniyāmaka* (pilot) 241 ; guild of pilots 243 ; distress of mariners when their ship tossed aimlessly for four months, attacked by a seagale 258 ; ship accommodating 700 merchants 259 ; *Bhṛgukachchha* as a port of departure 262 ; 700 merchants combining to obtain the services of one pilot 268 ; eight *kārṣāpaṇas* as the fee of a barber 272.
- Surāpāna (No. 81) on *paryanka* 222 ; basket 224 ; mythological origin of *surā* and *varuṇī* wines 227 ; evils of drinking wine 227 ; Drink Festival in India 227 ; *surā* 227 ; *vāruṇī* wine 227 ; *kapotikā*

- wine 227; Udica Brahmins 238; gopāla (cowherd) 240; aśvapālaka 240; dearness of kapotikā wine 274.
- Susīma (No. 163) on decision of the majority prevailing in the village council 189 fn.; corporate life of the citizens of Śrāvastī 186; sthavikā (purse) 220; 1000 kārṣāpaṇas as the advance tuition fee paid to an ācārya 239, 272; royal high-priest 242; fees paid by apprentices to teachers 245; safety of the great N. route to Taxila 264.
- Susīma (No. 411) on royal high-priest 242.
- Suśroṇi (No. 360) on Bhṛgukachchha city 180; sea-voyage from Bhṛgukachchha to Suvarṇabhūmi (= Burma?) 261; Bhṛgukachchha as a port of departure 262.
- Sutana (No. 398) on day-labourers being sometimes paid in money wages 251; day-labourers earning half a māṣaka to one māṣaka a day 273.
- Suvarṇahamṣa (No. 186) on garlic 201; woman working as a maid-servant 256.
- Suvarṇakakkala (No. 389) on Brahmin villages 187, 243; large holdings (of 8000 acres) 190; Tāla tree 203; Brahmin peasant 238, 245.
- Suvarṇamṛga (No. 359) on lac 203; methods of hunting 211 fn.; net of leather-straps to catch deer 227; kammakara (free labourers) 250.
- Svetaketu (No. 377) on wooden shields 224; Udica Brahmins 238; contact with air that touches a chapdāla's body is pollution 249.
- Syāma (No. 540) on niṣāda 240; niṣāda village 243.
- Tailapātra (No. 96) on Vārāṇasī city 180; paraśu (axe) 215; multi-coloured coverlet for beddings 219; canopy decorated with golden stars 220.
- Tapdulanālī (No. 5) on Vārāṇasī city 180; court-valuer 242, fixing prices for the royal household without appeal 266; rice as a standard of value 268; nālikā (a kind of measure) 272.
- Takka (No. 63) on corporate life of villagers 189; ācārya maintained by the guardians of children they taught 239; karamaras, persons captured by robbers and reduced by them to slavery 252.
- Takkala (No. 446) on bulbous roots of different kinds 201-02.
- Tarkārika (No. 481) on the serving maids of courtesans 257; out of 1000 pieces as fee for one night charged by a courtesan (Kālī by name) 500 went to cover the price of clothes, perfumes and garland used for the night 257, 272.
- Tilamuṣṭhi (No. 252) on umbrella made of leaves 225; one-soled shoe 226; ācārya 239; 1000 kārṣāpaṇas as the fee paid in advance to an ācārya 239, 272; royal high priest 242; fees paid by apprentices to teachers 245; safety of the great N. route to Taxila 264.
- Tinduka (No. 177) on Tinduka tree (Gāva or Ebony) 208.
- Tittira (No. 37) on the cities of Śrāvastī 182, Rājagṛha 182 and Vaiśālī 183; Tittira (No. 117) on Udica Brahmins 238.
- Tittira (No. 319) on poultry-farmer 240; catching birds with the help of decoy birds 242.
- Tittira (No. 438) on ācārya 239.
- Tirtha (No. 251) on aśvapālaka 240; arthadharmānuśāsaka 242.
- Triparyastamṛga (No. 16) on Ālavī city 180; broom-stick 225; privy (vachchhatṭhāna) 231.

- Trīṣakuna** (No. 521) on *sthavikā* (purse) 220.
- Tuṇḍila** (No. 388) on a cotton-field near Benares 220; drinking wine forming part of festive ceremonies 227; *surā* 227.
- Tuṣa** (No. 338) on gold plate worth a lac pieces 217; *ācārya* 239.
- Tvaksāra** (No. 368) on *Tvaksāra* (bamboo) 204.
- Ubhatobhraṣṭa** (No. 139) on fishermen 240; *kārṣāpaṇa* 268.
- Uchchhiṣṭa bhakta** (No. 212) on actor 241.
- Udañchani** (No. 106) on bucket 215.
- Udaya** (No. 458) on Surandhana city in the Kāśī kingdom 182; iron vessels 215; silver vessels 216; gold vessels 216; life-like golden image of a girl 237; *suvarṇa-māṣaka* (a medium of exchange) 268.
- Uḍumvara** (No. 298) on Yagdummura (a kind of fig) 201.
- Uddālaka** (No. 487) on tent 221.
- Unmādayantī** (No. 527) on four gates of the city of Ariṣṭapura 180; earring set with jewels 218.
- Upānaha** (No. 231) on shoes 226; *ācārya* 239.
- Uraga** (No. 354) on Brahmin peasants 238, 246; no odium on a Brahmin following the occupation of a peasant 238; alderman of a guild 243; quarrel among guilds 243; slaves treated as members of a family and leading virtuous lives 254; slaves possessing knowledge of higher philosophical truths 254.
- Utsanga** (No. 67) on *sātakas* worth 1000 pieces of copper 274.
- Vabhru** (No. 137) on worker in stone (*pāsānakutṭaka*) 228, 240; white crystal cage for a mouse 228.
- Vairī** (No. 103) on *paryyanka* 222.
- Vaka** (No. 38) on bill-hook 215: *chīvara* (dress of the Buddhist monks) made by the monks themselves 219; cloth stiffened with starch 229.
- Vālāhāśva** (No. 196) on forests supplying rice 203; sufferings of mariners due to shipwreck in mid-ocean 258; ship accommodating 500 merchants 259; voyages to Ceylon 261.
- Vandhanamokṣa** (No. 120) on royal high priest 242.
- Vandhanāgāra** (No. 201) on iron fetters 216; iron chairs for prisoners 216.
- Vaṇṇupatha** (No. 2) on *Vārāṇasī* 180; hammer 215; spade 215; *sthālaniyāmaka* (land-pilot) 241; forest guard 241; pilots who noted the directions by marking the position of the Sun by day and of stars by night 262; caravan trade 263; caravans travelling through deserts at nights only 263; organisation of caravans 263.
- Vardhakīśukara** (No. 283) on payment of a tax in cash 197; winnowing basket 226; *snānachūrṇa* 279.
- Vartaka** (No. 35) on *kariṣa* a vessel for measurement 223; *amṇaṇa*, a vessel for measurement 223.
- Vartaka** (No. 118) on poultry-farming 211; *śākunika* (poultry-farmer) 240; **Vartaka** -*vyādha* (hunter of birds) 240.
- Varuṇa** (No. 71) on the right gathering firewood by the learned 82; arbours of tree in parks 213; *chīvara* (dress of the Buddhist monks) made by the monks themselves 219; *ācārya* 239.
- Vahya** (No. 108) on woman serving as maid -servant 256.
- Vālodaka** (No. 183) on *makaci*, a kind of fibre 202; boy-servant 241; wrestler 241.

Vatamṛga (No. 14) on silver box for keeping ornaments 216 ; litter or sedan chair 223 ; pitcher 225 ; gardener 241 ;
Vāruṇi (No. 47) on vāruṇi wine 227 ; dearness of wine of superior strength 228, 274 ; monks dying their chīvara 229 ; wine distiller 240 ; nālikā (a kind of measure) 272.

Vedavbha (No. 48) on performer of spells 241.

Vidurapaṇḍita (No. 545) on lac 203 ; *trees* Tilaka 204, Muchakunda 204, Bhagini-māla 205, Saptaparṇi 205, Uparibhadra 205, 205 fn. ; *flower trees* : Karpikāra 206, Ketaki 206, Champaka 207 ; Nāgamallika 207, Sindhuvāra 207 ; *fruit trees* : Āmra 207, Jamvu 208 ; Saha (= Sahakāra, scented mango) 208 ; *fishes* : Rohita, Pāguṣa and Pāṭhina 212 ; Maṇikāra 217, 240 ; magician 239 ; washerman 240 ; garland-maker 241 ; cook 241 ; musician 241 ; actor 241 ; wrestler or boxer (mutṭhika) 241 fn. ; clown (sobhiya or soubhika) 241 ; kammakara (free labourer) 250 ; four kinds of slaves 252 ; shipwrecked pilot taking shelter in an island 258 ; cloth merchant 265.

Vikarṇaka (No. 233) on dropa, dropi 223, 272.

Vinīlaka (No. 160) on Tāla tree 203.

Visa (No. 488) on the unenviable lot of the village headman 189 fn. ; Benares famous for cotton cloth 220.

Viṣavānta (No. 69) on viṣavaidya (curer of poisonous bites) 239.

Viṣabha (No. 340) on grass-cutter's knife 215 ; grass-cutter 240 ; a grass-cutter earning two māśakas a day 273.

Viśwantara (No. 547) on Benares famous for her textile fabrics 180, 220 ; Jetuttara city in the Śivi country 181 ;

Jetuttara surrounded by wall pierced with gates 181 ; town-planning of Benares 185 ; valibha (pumpkin) 201 ; garlic 201 ; māluvā (a kind of sweet potato) 201 ; karoti (= Beng. varvaṭi) 201 ; kalamvi 201 ; bulbous roots of different kinds 201-02 ; mustard 202 ; Nilī 202 fn. ; forests supplying (wild) rice 203 ; wild rice of two kinds 203 fn. ; aguru 203 ; guggulu 203 ; naladi 203 ; camphor 203 ; liquorice 203 ; kuṣṭha (costus) 203 ; ivory 203 ; *trees* : Sallakī, Camphor, Khadira, Aśvakarṇa, Aśvattha, Palāśa, Kūṭaja and Śāla 204 ; Akṣiva (= Sajinā) 204 fn. ; Śovāñjana (= Sajinā) 204 fn. ; Kareri (Varuṇa) 204 fn. Punnāga, Asana, Ajukarṇa, Sarala, Padmaka, Kakudha, Karaṇḍaka, Kovidāra, Tāliśa, Saptaparṇi, Karañja, Dhava, Dhātri, Putrāñjiva, Kosamva, Somavikṣa and Pañjura 205 ; Mahānāma 205—06 ; Svetaparṇa, Jātāmāṃsī Nīlapuṣpi, Svetavāri and Kateruha 206 ; Asītaru 206, 206 fn. ; Katamāla and Phaṇijjak 206 ; Vallika 205, 205 fn. ; Tulasī plant 206 ; *flower trees* : Karpikāra, Karaṇḍaka, Kiṃśuka, Kiṃśukalatikā, Nīpa (= Kadamba), Ankola, Yodhi (= Yodhika = Yuthikā) Sthalapadma, Ketaki and Vakula 206 ; Aśoka, Nāga-keśara, Tagara, Nāgavallī, Pātali, Nirguṇḍī (= Niṣindā), Bhaṇḍi (= Ghentu), Jāti, Madhugandhikā, Svetachchha, Raktamāla, Śiṃśapā, Asphoṭaka, Sūryavallī, Anoja, Vāsantī, Kiṃśukalatikā, Padmottara, and Elāmvarā 207 ; Śirīṣa (= Ghentu) 207 fn. ; *fruit trees* : Āmra, Jamvu, Vadarī, Kapittha, Kharjjura, Tāla, Vibhedaka (= Tāla) ; Coconut, Haritaki Vibhītaka, Panasa, Lavuja, Timvaru and Drākṣā 208 ; *shrubs and plants yielding scents* : Turmeric,

Aguru, Kuṣṭha (costus), Nalada (spike-nard), Guggula and Liquorice 208; Sandalwood, Priyanga, Gandhaśīla, Bhadramuṣṭā, Śatapuṣpa, Jhāmaka, Tungavīnta, Hrīvera, Choraka, Kalinga, Unnaka and Lolupa 209; *grass and reeds*: Kāśa, Kuśa, Poṭakila, Pavajja, Muñjā and Uśra (=Khaskhas) 209; Rohita fish 212; silver pot for milching cows 216; ornament for the neck set with jewels 218; *ornaments*: mukha-phulla 216-17, kṣhauma, unnata, keyūra angada, mekhalā, gingamaka, pālipāda and udghaṭṭana 218; Kautamvara famous for her cloth specially linen 221; Gāndhāra famous for her blankets some fetching a lac pieces 222; wooden spoon 223; earthen dolls for children which were representations of the images of elephants, horses, bulls, deer, hare, monkey, peacock, swan, birds etc., 226; meraya (=maireya) wine 227; seven-storeyed house 230; magician 239; confectioner 241; musician 241; mandraka-blower 241; weavers' ward in Benares 244; enslavement of a prince and a princess not shocking to the social ideas of those days 252; slaves freeing themselves by payment 253; sacrifice of cocks (panthaśakuna) for the safety of the caravan 263; niṣka 269; Amīratāpana's enslavement due to her father's debt 273 fn.; price of slaves varied with their accomplishments, good birth, beauty etc. 273, 274; woolen blankets worth a lac 274.

Viśvāsabhanjana (No. 93) on forests as pastures 202-03.

Viraka (No. 204) on the sufferings caused by famines in the Kāśī kingdom 280.

Vṛhachohhatra (No. 336) on leather bag

for keeping wealth 227; performer of spells 241.

Journal Asiatique—(Vol. IV): Renaud on the identification of Yavadvīpa and Suvarṇadvīpa with Jāvā and Sumātrā 162 fn.

Journal of the Bihar and Orissa Research Society—(1920): on prehistoric symbols on punch-marked coins 10.

Journal of Literature and Science, Madras —(1858): Mr. Elliot on the punch-marked coins in the graves of Coimbatore 10.

Journal of the Oriental Society of Germany —(Vol. XXII): Dr. Ballensen on references in the Vedas to images of gods 57.

Journal of the Royal Anthropological Institute—(Vol. XVIII): Gowland on Neolithic gold-mining centres in the Deccan 4; (Vol. LIV), E. H. Hunt on Copper Age remains in graves discovered in the Nizam's dominions 9; E. H. Hunt on Hyderabad pottery of the Copper Age resembling early forms of the "Ka" mark pottery of Egypt 18; Richard on some iron graves in North Arcot district 9 fn.

Journal of the Royal Asiatic Society—(Vol. VII): N. G. Walhouse on Copper Age remains in Coimbatore 8; (1888): Hewitt on the export of teak from the Malabar coast to Babylon 72, 163; (1889): John Cockburn on the cave-paintings in the Kymore ranges 5; (1898): Kennedy on trade between India and Babylon in the seventh and sixth centuries B. C. 163; (1925): E. Mackay in his article on Sumerian connections with Ancient India on points of similarity between ancient Indian and Sumerian civilisation 17.

Journal of the Royal Economic Society—(1910): Mrs. Rhys. Davids on all

exchange in the Vedic Age as done by barter 75.

Kaṣiṭṭhala Saṃhitā on *metals* : gold, ayaś, lead, tin, śyāma and loha 123 ; washing for gold 125 ; śyāma 131 ; ointments 176.

Kauśika Sūtra of Atharvaveda with extracts from the commentaries of Darila and Keśava edited with valuable notes by M. Bloomfield on charms to avert inundation 96 ; Tṛṣṭāgṛha tree 100 ; śyāmāka 107 ; parihasta used as a bracelet 127 fn. ; weather-prophet 150 fn.

Kauśika Sūtra on canal irrigation and the practical part of the ceremony of letting in the water 93.

Kauṣītaki Brāhmaṇa (and Aitareya Brāhmaṇa)—Trans. into Eng. by A. B. Keith on a double crop 91 ; wooden sacrificial post 137 ; ritual shoes made of bore skin 140 ; śreṣṭhin 152, 157. gambling as one of the causes of indebtedness 177.

Kauṣītaki Sūtra on palāla (straw) 143 fn. ; the necessity of proving one's descent from three generations of ṛṣis before one can serve as a priest 155.

× Kauṣītaki Upaniṣad—Trans. into Eng. by F. Max Muller in the S. B. E. series Vol. I. on *vasana* (cloth) 116 ; razor 132 ; razor case 132 ; āsandī having four legs 138 ; paryyanka (bedstead) 138 ; śreṣṭhin 152, 157 ; King Ajātaśatru disputing with and instructing Brahmins in the lore of the Brahmā 156 ; perfumes 176.

× Kāthopaniṣad—Translated into English by F. Max Muller in the S. B. E. series Vol. XV. on gold 123 ; śrinkā, an ornament 128 ; razor 132 ; sword 132 ;

polished mirrors 135 ; pictures (light and shade) 142 ; painter's brush 142.

Kāśikā (commentary on Pāṇini's Sūtras) by Paṇḍita Vāmana and Jayādityācārya Edited by Paṇḍitas Gaṅgādhara Śāstri and Ratnagopāla Bhaṭṭācārya : Pāṇini's Sūtra IV. 2. 68 *tena nirvritam* referring to the foundation of Kauśāmyi by prince Kuśāmya 181 fn.

Kāthaka Saṃhitā—Edited by L. Schræder in four vols. on well-irrigation 93 ; tantu (yarn) 115 ; vomān (loom) 115 ; nīvi (closely woven end of the cloth) 116 ; praghāta (long and loose unwoven fringe with swaying tassels) 116 ; tūṣa (sh rter fringe of the cloth corresponding to the modern chilkā) 116 ; vāṭapā (lengthwise border of the cloth which kept the web together from becoming threadbare by fluttering in the wind) 116 ; ārokāḥ (spotty patterns embroidered all over the cloth) 116-17 ; uṣṇīṣa (a head dress) 118 ; threads of wool 118 ; barāśī (a barken stuff) 119 ; *metals* : gold, ayaś, lead, tin, śyāma and loha 123 ; washing for gold 125 ; śyāma 131 ; methi (pillar) 145 ; knowledge not descent making a Brāhmaṇa 155 ; setu (raised bank for crossing inundated land) 160fn. ; śatamāna (a medium of exchange) 165 ; hiraṇya kṣiṇṇāla (a medium of exchange) 125, 167 ; ointment 176 ; śalālī (annointing instrument used by males) 176.

Kātyāyana Śrantaśūtra on uṣṇīṣa 118 ; tārpya (silk or linen garment) 119 ; preparation of soma drink 141 ; black and pointed shoes of the Vrātyas 226 ; Śatamāna (a medium of exchange) 269.

Kev-dha Sutta on the use of birds to guide pilots 262.

✕ **Khādira Grhyasūtra**—Trans. into Eng. by H. Oldenburg in the S. B. E. series vol. XXIX. on rotation of crops 91, 200; darvī (a spoon) 223; razor of udumvara wood 224; basket 224; rules and rites on house-building 235; sesamum 202; razor made of metal 215; brazen vessels 216; brazen bowls 216; ornaments 217; golden ornaments 217; wreath of gold 218; rope 225; pitcher 225; shoes 226.

Kindred Sayings (—Sanyutta Nikāya)—Translated into Eng. by Mrs. Rhys Davids and Mr. F. H. Woodward in three parts on all property left intestate or ownerless reverting to the crown 276.

La Doctrine du Sacrifice—Sylvain Levi on the story of Manu dividing his property among his sons 84 fn.

Land system in South India between 800 A. D. and 1200 A. D.—Dr. K. M. Guṇṭa (Punjab Oriental series, Vol. No. XX.) on two-field and three-field systems of cultivation 92—93.

Lāṭyāyana Śrautasūtra with the commentary of Agni Swāmī on the necessity of proving one's descent from three generations of ṛsis before one can serve as a preist 155.

✕ **Literary History of India**—R. W. Frazer on the Puraṣasūkta hymn 61; sea not unknown to the early Indo-Aryans 67.

Manchester Memoirs Vol. LX. Part 1. (1915) on Neolithic graves 6.

Mahābhāṣya of Patnājīali critically by edited by Kielhorn: the commentator Nāgojibhaṭṭa's wrong interpretation of the Mauryas as idol-manufacturers 165—66.

Mahāniddeśa on Tāmraparṇī dwīpa 261 fn.; (commentary) on the difficulties of caravans figuratively described 263.

✕ **Mahāparinibbāna Suttanta**—Trans. into Eng. by T. W. Rhys Davids in the S. B. E. series vol. XI. on the six great cities and the small city of Kuśinagara 179-80; foundation of a fortress in Pāṭaligrāma which along with the fortress grew up into the town of Pāṭaliputra 184.

✕ **Mahāsudassana Suttanta**—Trans. into Eng. by T. W. Rhys Davids in the S. B. E. series vol. XI. on town-planning of Kuśāvati 155; detailed description of a flight of stairs 224.

✕ **Mahāvagga**—Trans. into Eng. by T. W. Rhys Davids and Hermann Oldenburg in the S. B. E. series in vols. XIII. & XVII. on cultivation of lands by tenants 118; use of scare-crows to protect the crops 199; channel dug for co-operative irrigation likened to a patchwork robe of the monks 200; Simula cotton used in quilts 202; forests as elephant-preserves 204; coverlets dyed with figures of animals 220 fn.; high quality of the cloth of the Śivi country 221; various kinds of woollens 221; pallanka (high class bed-stead) 222; āsandi 222; litter or sedan chair 223; apassona phalakam (board to lean against) 223; five kinds of abodes allowed to Buddhist monks 231; extensively built houses of the richer classes described 232; ogumpheti (—skins?) 233 fn.; adjustable shutters for windows 234; relation between the antevāsika and the ācārya 245; undischarged slaves not eligible for the pavajjā ordination 253; one hundred

pieces for one night as fee of a courtesan (Śālavatī by name) 257.

Mahāvamśa—Edited by W. Geiger on frontier villages in Vanga country 187 and 187 fn.

✕ Maitrāyaṇa Brāhmaṇa Upaniṣad—Translated into English by F. Max Muller in the S. B. E. series in Vol. XV. on plantain tree 105 fn.; the work of the blacksmith described 131; bell 132; vessels made of brass 133; painted wall 142; karmāra (blacksmith) 149; mṛṭpaca (potter) 150; public dancer 151; actor 151 fn.; magician 151 fn.; prize-fighter 151; catching fish with a net 170-71.

Maitrāyaṇī Samhitā—Edited by L. Schröder, on vemāna (loom) 115; uṣṇīṣa 118; threads of wool 118; tārpya (silk or linen garment) 119; kṣhauma (linen) 119; metals: gold, ayas, lead, tin, śyāma and loha 123; washing for gold 125; hiranyakṛṣṇāla (a medium of exchange) 125; opāśa 129; śyāma 131; prāvepa (according to Geldner looking glass); potter 140, 150; knowledge and not descent making a Brāhmaṇa 155; ointment 176; śalālī (anointing instrument used by males) 176.

✕ Majjhima Nikāya (the first 50 discourses)—Translated into English by Bhikkhu Śīlacara in two parts on the city of Aṭṭaka in Anga 180; Assapura, a nigama in Anga 180; Halidda-vamśa, a nigama in the Koliya country 181; Kitagiri, a nigama in the Kāśī kingdom 181; forests as elephant-preserves 204; thatched house 230; slaves forming part of a householder's property 252-53; beating a female slave (Kālī by name) 255; female dancers and singers 256; voyages out of sight of land 258.

Manchester Memoirs (Vol. LX.)—Elliot Smith on the causes that led to the establishment of Neolithic settlements in particular localities 6.

✕ Manusmṛti with the commentary of Medhātithi—Translated into English by Dr. Gangānātha Jhā complete in ten vols. on the sharing of lands by the conquering persons 24; fines on piercing fine gems like diamonds and rubies and for boring pearls or inferior gems improperly 133 fn.; kṛṣṇāla as a metallic standard 167, 167 fn.; Vena caste 248; Pukkasa caste 248 fn.; Dhvajālīta class of slaves 252; Dandadāsa class of slaves 252; table of weights and measures on which the standard of exchange was based 269.

✕ Manual of Indian Buddhism—Kern on the sale of land to Anāthapīṇḍada 192 fn.

Mayamatam on the growth of villages into towns 183 fn.

Mānava Gṛhyasūtra on temple 236.

Myth, Ritual and Religion—Andrew Lang on the similarity in the primitive mode of accounting for creation from the sacrifice of a fabulous monsterman, a Puruṣa 61.

✕ Natural History—Pliny on Indian glass as superior to all others from the circumstances of its being made of pounded crystal 135; fifty-eight rivers of India 200.

Neu und Vollmondsopfer—Hildebrandt on prasitraharaṇa 224 fn.

Nirukta—Yāska on Devapi as royal priest 156.

Notes on the Age and Distribution of the Foote collection of Indian Prehistoric and Protohistoric Antiquities (Madras, 1916)—Bruce Foote on Neolithic pottery 3-4; Neolithic iron industry 4 fn.;

painted figures on rocks in the Neolithic site of Kapgalla in the Bellary district 5.

Numismata Orientalia—Goldstucker on stamped impressions on the media of exchange 269.

Omina et Portenta—Weber on charms to avert inundation 96; Sakadhūmam (weather-prophet) 150 fn.

Origin of the Brāhmī Alphabet—Bühler on references to navigation in the Ṛgveda 67.

Origin and Growth of Religion among the Babylonians—Dr. Sayce *See* under Hibbert Lectures.

Original Sanskrit Texts—Muir on kulyā in the Ṛgveda meaning artificial waterways 29; on the probable use of cotton cloth in early Vedic Age 49; leather work in the Ṛgvedic Age 54; absence of caste system in the Ṛgvedic Age 58.

×Oxford History of India—V. A. Smith on the non-existence of the golden age of poets in the primitive times 1; Puruṣa-sūkta hymn 61; voyage of Skylax down the Indus into the Indian Ocean 261.

Pāli Dictionary—Childers on kuṭimvaka or kuṭamvika (private landowners) 191 fn.; Nikkho=five suvarṇas 270.

Pāli Dictionary—Rhys Davids on kuṭimvaka or kuṭamvika (private landowners) 191 fn.

Pañchaviṃśa Brāhmaṇa—Trans. into Eng. by Dr. Caland on maṇi being work on the neck by means of a thread 52; goat's skin as clothing 112; tūṣa (a shorter fringe of cloth corresponding to the modern chilkā) 116; nṣṇiṣa 118; barāśī (barken stuff) 116; opaśa 128; necklace of silver niṣkas 128, 130, 165; prākāśa (according to Geldner looking

glass) 134; bage for holding milk, wine and other liquids made from cow-hide 110, 140, 169; methi (pillar) 145 fn; vāyitrī (female weaver) 149 fn. 153; royal seers 155; royal priest 156; badvan (causeways) 160; goat's skin as clothing 112; gambling as one of the causes of indebtedness 177.

Pāṇinī *See* under Sūtras of Pāṇinī.

×Pāraskara Gṛhyasūtra—Trans. into Eng. by H. Oldengurg in the S. B. E. series vol. XXIX. on kilāla (a variety of surā) 142; pariśrut (a drink from flowers) 142; position of women in relation to agriculture 153; mudga 201; sesamum 202; mustard 202; tortoises 202; spear 214; axe 215; copper razor 216; brazen vessels 216; an instrument of gold used in giving honey and clarified butter to the newborn child in the medhājanana ceremony 217; ornaments 217; kuṇḍala (earring) 218; chariots 222; ākarsa phalakam (dice-board) 223 fn.; darvī (spoon) 223; sruva (small sacrificial ladle) 223; mat 224; basket 224; shoes 226; wine of superior strength 228; rules and rites on house-building 235.

Pātimokkha—Trans. into Eng. by T. W. Rhys Davids and Hermann Oldenburg in the S. B. E. series vol. XIII. on employment of weavers to weave cloth for monks 219; silk fabrics 221; use of money forbidden to the Saṃgha 267; practice of stamping impressions on media of exchange 269; a kārṣa (=kārṣāpapa) enough for buying coarse clothing for a monk and ten kārṣa's for a nun 273.

Pliny's Natural History *See* under Natural History—Pliny.

✕ *Periplus of the Erythrean Sea* (Schoff's Eng. Trans.) on the discovery of the monsoon 74; the export of ebony from Barygaza 70 fn.

Prehistoric Antiquities—Schræder on *ayas* as pure dark copper 49; *loha* as originally meaning copper but later denoting iron 49, 131.

Prehistoric India—Dr. Pañchānana Mitra (Second edition, 1927) on Neolithic pottery 4; rock-carving in Manbhandar village of Singhbhum 5—6; prehistoric rock-painting near Singanpur in the Raigarh district of C. P. 4—5.

Proceedings of the Asiatic Society of Bengal (1867): Mr. H. E. Blanford on the existence of man in India at a much earlier period than in Europe 1.

Psalms of the Brethern on channels dug for co-operative irrigation likened to a patchwork robe of the Buddhist monk 200; court-valuer 242, 266; slaves having no freedom except that given by their masters 253; manumission of slaves 253; courtesans 257; fish-monger's village at a gate of Śrāvastī 265;

Psalms of the Sisters—*See* under *Therīgāthā*.

Ptolemy's Geography—*See* under Geography—Ptolemy.

✕ *Rāmāyaṇa*—Vālmiki (with the three commentaries of Tilaka, Śiromaṇi and Bhuṣaṇa) complete in seven vols. on crops grown 94—95; importance of agriculture 95; famine 96-97; forests supplying resin, aloe, musk, sandalwood, lac, hides, honey and fuel and the materials for the construction of houses and sacrificial implements 97; different kinds of trees 98—105; beautiful avenues of Śāla trees in the city of

Ayodhyā 101 fn.; mango-gardens of Kośala 105 fn.; groves of cocoanut trees along S. coast of the Deccan 105 fn.; groves of plantain trees 105 fn.; art of gardening 103; dung of buffaloes used as fuel 112; Kamvoja, Bahllika and Sind famous for their horses 112, 158; flesh of sheep as food 112; cloth made of sheep's wool 113; large size and great strength of the elephants of the Himalayan and Vindhyan regions 113, 158; hides of elephants 113; hunting the deer and the antelope with the bow and the arrow 114; weaving industry 120—22: linen 120-21, woolen 121, silk 121-22; metals 123-24; mineral products like gairika, lime, mica, crystal and diamonds 124; goldsmith 124, 149 fn.; mining gold, gems and precious stones 125; silver mines 124; metal industries 126—133; various articles made of gold 126—127, various ornaments 129—30, various articles made of silver 130, metal vessels 131; spade 132; hoe 132; bill-hook 132; iron axe 132, iron box or trunk 132; 169; collyrium pots 132; blade of an arrow 132; sword 132; armour 132; armour for elephants and horses 132; ornaments made of iron 133; images of tiger made of various metals 133; bell-metal milk-pots 133; brass 133; alchemy 133; jeweller 134, 149; jewellery 134; polished mirror 135; wooden sacrificial post 157; specialised carpenters 139; manufacturer of boxes 139, 169; wooden sandals 139; artificial hills made of wood 139; deer-skin used as seat-spreads 139; tiger-skin as coverlet for chariots 139—40; lion-skin as coverlet for chariots 140; leather-worker 140, 149; pots like kumbhi, karambhi

and *sthālī* 140, 169; liquor-pots 140 169; altars and seats made of ivory and gold 140; pillars and windows made of ivory 140; images of ivory placed in chariots 140; *surā* that oozes spontaneously from trees (= *tādi* ?) 142; *vāruṇī* and *maireya* wines 142; painters 142; rooms adorned with pictures made by skilful artists 142; images of horses, birds, serpents and of *Lakṣmī* with her elephants carved on a chariot 142; town-planning of the city of *Lankā* 146—47; town-planning of the city of *Ayodhyā* 147; civic consciousness of the citizens in keeping with town-planning 148; weaver of rugs 149; scent-maker 149; potter 150; astrologer 150; physician 150; cook 150, 174; servant 150; washerman 150; musician 151; public dancer 151; actor 151; artist 151; painter 151; merchant 151; mason 151; a brahmin earning livelihood by ploughing 156; *Valmiki*, a *Sūdra* was the composer of the *Rāmāyaṇa* and a *ṛṣi* 156; recognition of the position held by trades and crafts in society 158; references to sea-voyages 161-62; reference to preparations for a naval fight 162; India's trade in silk with China 162; flesh of goat, sheep and of hunted animals like black antelope and wild boar as food 170; dried meat as food 170; flesh of buffalo, cock, peacock, hare and various kinds of *kṛkālā* as food in *Rāvaṇa*'s kitchen 170; *āsava* and its preparation 171; luxury and the improvement of art in the age of the *Rāmāyaṇa* 174-76; gambling as one of the causes of indebtedness 177; duty of the state to promote the material welfare of the subjects 178; foundation of *Kauśāmya* by prince *Kuśāmya* 111 fn.;

inclusion of *Vārttā* (which concerned itself with the various branches of production) in the royal curriculum of studies 275; king advised to pay proper attention to the property of traders, cultivators and the cattle-farmers 275—276.

Reallexicon der Indogermanischen Altertumskunde—Otto Schröder on the original Aryan stock having acquaintance with agriculture long before their migration into different lands 22; on the common knowledge of the arts of the weaver, the carpenter and the plaiter of grass and reeds among the people speaking the Indo-European group of languages 45.

Records of the Geological Survey (Vol. I): Dr. Oldham on the Godavari flake being “formed from a compact light-coloured agate” 2; (Vol. XXXVII): Dr. Keith on the Burma find containing implements showing distinct traces of having been worked by man 1.

Report of the Archaeological Survey of India, Madras (1914-15): Longhurst on Copper Age remains in Kurnool burial sites 8; the western (Egyptian) influence on the Copper Age pottery of S. and W. India 9.

Report of the Archaeological survey of India, Southern Circle (1902—03) Mr. A. Rea on Copper Age remains in the burial sites at Adichanallur in Tinnevely 8.

Ṛgveda Samhitā with the commentary of *Sāyanācārya* critically edited by F. Max Muller in 4 vols. on cow as the medium of exchange 9—10; growth of land-ownership and agricultural life 22—24; Aryans sharing among themselves the conquered land of the *Dasyus* 24; no

royal ownership of land 24—25 ; corporate village life 25—26 ; growth of towns 26-28 ; clearance of forests for purposes of agriculture 28 ; origin of the art of sowing seeds and of the use of the plough 28—29 ; agricultural operations 28—29, 31—32 ; use of manure 29 ; irrigation by wells 29—30, 93 ; ceremonies connected with agriculture 30—31 ; nature of the grains grown 32 ; food of the people 32—35 ; domesticated animals 35—41 ; various kinds of trees 42, grass 43 and plants 43 ; economic importance of forests 41 ; hunting and fishing 43—44 ; weaving industry 45—49 ; dress 47—48 ; metal industry 49—52 ; various kinds of ornaments 51—52 ; carpentry 52—53 ; pottery 53 ; leather-work 54 ; manufacture of liquor 54 ; house-building 54—57 ; painting and sculpture 57—58 ; caste system in relation to mobility of labour 58—62 ; different occupations 62—64 ; domestic labour 64—65 ; internal or domestic trade 65—66 ; means of communication : roads and rest houses for travellers 66, 159, beasts of burden etc., 66—67 ; navigation 67—69 ; combination between merchants 74—75 ; methods and media of exchange 75—77 ; general economic condition of the masses and the classes 77—80 ; indebtedness 79 ; rate of interest 79, 177 fn. ; famine 80 ; hospitality and liberality 80 ; law of inheritance 89 ; *proṣṭha* (in *proṣṭhaśāya*), something like a high and broad bench 137 fn. ; *āsecana*, vessel to hold liquids such as meat-juice 140, 169 ; *ayasthūpā* (pillar made of *ayas*) 145 fn. ; *añja* or *añji* meaning ornaments 127 fn. ; *gṛha*, either an actual house

erected over or beside the grave in memory of the deceased or chambers and vaults of subterranean or rock-out caves 144 ; pillar (*sthūpā*) on Vedic grave 144—45 ; *upalaprakṣiṇī* (woman employed in grinding corn) 148 fn. ; *vapṛ* (barber) 151 fn. ; *kuśidin* (usurer) 152 fn. ; high status of the *rathakāras* 152 ; slavery 64, 153 ; *dāsa* denoting a non-sacrificer, a heterodox and not always a slave 153, 153 fn. ; *ariṭr* (rower of a boat) 161 ; *harmya* 173—74 ; *harmyeṣṭhaḥ* prince 137—74 ; prayers for freedom from debt 177 fn. ; protection of crops from birds by making din and noise 199.

Rgveda—Translated into English by R. T. H. Griffith in two vols. on *Kākamvara*, some umbrageous tree 42 ; uses of *Valvaja* (*Eleusine Indica*) 43 : *Pātā* or *Pāthā*, a climbing plant having medicinal properties 43 ; hunting lion from a place where men lie in wait to capture him or where a pitfall has been prepared to entrap him 44 ; *Rgveda* IV. 24. 10 and VIII. 1. 5 referring to images of gods 57 ; *Rgveda* IV. 32. 33 referring to carved images of girls on wooden posts 57-58, 142 ; *Rgveda* IV. 24. 9 suggesting haggling over prices 65-66.

✕ *Rgveda*, the oldest literature of the Indians by A. Kaegi—Translated into English by R. Arrowsmith on race of chariots drawn by horses as “the peaceful preparatinn for the decisive struggle on the battle-field” 39 ; lowest stage of developmont of arts and crafts in the *Rgvedic* Age 44.

✕ *Rgveda*—Eng. Trans. by H. H. Wilson, on *pūras* as cities 26, 27-28 ; references to weaving in the *Rgveda* 46 ; *Rgveda*

IV. 24. 2 suggesting a contract for sale 65 ; Ṛgveda III. 31. 1-2 suggesting law of inheritance and Sāyana's interpretation on it 89 fn.

✗ Ṛgvedic Culture—A. C. Das on cultivation of rice in the Ṛgvedic Age 32 fn.

Śārangadhara Saṃhitā (Nirṇaya Sāgara Press) on table of weights and measures 272 fn.

✗ Śatapatha Brāhmaṇa (Ajmere edition) on sacrifice described figuratively as ploughing, sowing and reaping 31 ; garment of kuśa grass used by the wife of the sacrificer 43 fn. ; alankāra used for the first time in the, 51 fn., 127, rukma being worn on the breast by means of a chain (rukmapāśa) 52, 128 tālpa 53 ; nature and construction of gṛha (a memorial structure) 53 fn. ; cities of Āsandhivat and Parivakra 81-82 ; feeling against land-transfer 85 ; gifts of lands to Brāhmins 85 ; Kṣatriya clansmen apportioning land given to them by a king with the mutual consent of all 85 ; every one being fit to be eaten up by the king 85 ; grant of (public) land by the king with the consent of the clan 86 ; agricultural operations 92 ; raid of cattle 109 ; various articles of food prepared from cow's milk 110, 171 ; beef-eating 111 ; growing feeling against cow-slaughter 111 ; goat's skin as clothing 112 ; origin of boar, its fat and the sandals made of its skin 113 ; tortoise 114 ; anuchāda (forward stretched web) 115 ; sic (border or fringe of cloth) 116 ; daśa (border or fringe of cloth) 116 fn. ; nivi (closely woven end of the cloth) 116 ; praghāta (long and loose unwoven fringe of swaying tassels) 116 ; ārokāḥ (spotty patterns embroidered all over the

cloth) 116-17 ; adhivāsa (garment to cover the upper part of the body) 117 ; uṣṇīṣa 118 ; tārpya (silk or linen garment) 119 ; metals : gold, ayas, lead, tin, syāma and loha 123 ; washing for gold 125 ; suvarṇa 125 fn. ; pādas of gold 125 fn. ; śatamāna 125 fn. ; gold on the priest's finger 125 fn. ; karpasobhana 128 ; silver plates 130 ; lohamaya 131 ; lohāyasa 131 ; prākāśa (according to Geldner looking glass) 134 ; āsandī (shining seat) made of Udumvara wood 138 ; āsandī made of Khadira wood 133 ; āsandī square in shape 138 ; a span high āsandī 138 ; knee high āsandī 138 ; navel high āsandī 138 ; nau-maṇḍa (rudder of a boat) 139 ; goat-skin as the ritual dress of the priest 139 ; goat-skin, tiger-skin and black antelope skin as coverlet for āsandī's 139—40 ; ritual shoes made of boar-skin 113 ; 140 ; burnt (pakva) bricks mentioned for the first time in, 143 fn. ; śmaśāna (funeral and memorial structure) and its three varieties—vāstu, gṛha and prajñānam 114 ; stone and timber pillars on śmaśāna 145, 145 fn. ; dvār (door) 145 fn. ; sthūpā (pillar) 145 fn. ; sthūpā-rāja 145 fn. ; methi (pillar) 145 fn. ; smelting of ores (aśman) 148 fn. ; female weaver 142 fn., 153 ; stone-carving 149 fn. ; position of women in relation to agriculture 153—54 ; royal seers 156 ; kings Janaka and Aśvapati disputing with and instructing brāhmaṇas in the lore of the Brahmā 156 ; horses imported from the Indus regions 158 ; setu (raised bank for crossing inundated land) 160 fn. ; reference to sea and sea-navigation by Manu, the Indian Noah 161 ; manorava-sarpanam (sliding down of the ship) 161

fn.; ship having two rudders 161; nāvāja (pilot) 161; tūlā (balance) 164; śatamāna (a medium of exchange) 165—66; a śatamāna was vṛtta (i.e., round) in shape 166; suvarṇa (a medium of exchange) 166; pāda (a medium of exchange) 166; āvasatha (structure of some sort for the reception of guests) 168 fn.; Yājñavalkya's fondness for beef 170; liberality of princes 173; ointment 176; gambling as one of the causes of indebtedness 177; sareṣika, a reed stalk with a tuft as anointing instrument 176; Kauśāmveya, one belonging to the city of Kośāmvī 181 fn.

× Satapatha Brāhmaṇa—Trans. into Eng. by J. Eggeling in five vols. (in the S. B. E. series) on Prof Eggeling's acceptance of Sāyana's interpretation of a śatamāna as having been 100 mānas or guṇja-berries in weight 166.

× Sāmaveda—Eng. Trans. by Stevenson on the preparation of Soma sacrificial drink 141.

Śāṅkhyāyana Āraṇyaka Upaniṣad—Trans. into Eng. by A. B. Keith on paryyanka (bedstead) 138; asandī having four legs 138;

× Śāṅkhyāyana Gṛhyasūtra—Trans. into English by H. Oldenburg in the S. B. E. series vol. XXIX. on kilāla (a variety of surā) 142, 227; pariśrut (a drink from flowers) 142; vṛlhi (rice) 200; yava 201; mudga 201; sesamum 202; mustard 202; indigo 202; śana (Crotalaria Junica) 202; consecration ceremony of a garden 213; sword 214; axe 215; copper razor 216; gold vessels 216; gold spoon 217; golden ornaments 217;

earring 218; chariot 222; sruca (ladle) 223; sruva (small sacrificial ladle) 223; pitcher 225; pot for keeping curds 225—26; shoes 226; women drinking wine at marriage festivals 227; surā 227; rules and rites on house-building 235; temples 236.

Sanyutta-Nikāya—See under Kindred Sayings.

Sāyana's commentary on the R̥gveda—on the fowler's wife cutting a bird evidently for food (in R̥gveda I. 92. 10) 33; tridhātu and trivarūtha (in R̥gveda VI 45. 9) 56; R̥gveda III. 31. 1—2 referring to customs or laws of succession to property 89.

× Si—yu—ki (Buddhist Records of the Western World) by Hiuen Tsang—Trans. into English by S. Beal on the story of the maritime adventures of the lion-prince Siṃhala 261; kingdom of women 261; red sandal-wood image of the Buddha caused to be made by the minister of king Udayana, a contemporary of the Buddha 236.

Sociale Gliederang Indien—Fick on Udicca Brahmins inheriting a stricter standard of life 238.

× Some Aspects of the Earliest Social History of India—S. C. Sarkar, London, 1928 on opāśa as a style of hair-dressing 51 fn.; kurīra as a style of hair-dressing 52 fn.; building activities developing through the needs of social and corporate life of the Vedic Aryans [as in the case of Vedic goṣṭhi (club) vidatha (royal audience hall), sabhā and the like] 57; uttuda (sprung from tuda or mulberry tree i.e., silken) 119; kumva and kurīra as a kind of horn-shaped coiffure 127 fn., 128 fn.

St. Petersburg Dictionary—on *dama* 55 fn.; *pastyasad* 55 fn.; *papi* 74; *anūka* as an adverb only (and not as an ornament) 51; *opaśa* as hair-tape or hair-net 51; *khādi* as an ornament of three kinds 52; *śyāmā*, name of various plants 107 fn.

✕ Study in the Economic Conditions in Ancient India, A—Dr. Prāpanātha on the relative value of gold and silver in Kauṭalya's time 271.

Sūtras of Pāṇini on *ākhana* (= a pit artificially made where the hunter could lie in wait at a convenient distance for shooting) 114 fn.; *pāda* as a metallic standard 167; *Sālatura* city 182; *Takṣaśilā* 183; *śana* (*Crotalaria Junica*) 202; *grāmaḥ śilpini* (craftsmen attached to a village) 213; *grāmakantābhyām ca takṣaṇa* (carpenters attached to a village) 213; bell-metal 216; *kanthā* 220; *kaṇṣeya* cloth 221; carpets 221 fn.; *Kapiśa* famous for grapes out of which wine was prepared 228; temple of the gods 236; actor 241; *Chakravartman*, a Kṣatriya was a grammarian 248; *vaitanika* (wage-earner) 251; *dvaipyo vaṇika* (merchants trading with islanders) 259; salt merchants 265; spice merchants 265; *saurpa*, *vāsanam* and *maudgika* proving the existence of barter 268; bovine tale as a standard of value 268; cow as a standard of value 268; *kārṣāpaṇa* 268, *pāda* 268, *papa* 268, *śatamāna* 269, *niṣka* 269, *hiraṇya* 269, *kaṇṣa* 269 and *vista* 269 as media of exchange; stamped impressions on media of exchange 269; *māśa* (as a kind of weights) 272; *ādḥaka* (a kind of measure) 272; *dvaiguṇika*, *traiguṇika*

and *daśaikaśaśika* proving the exorbitant rates of interest 274—75.

✕ Suttanipāṭa—Translated into English by V. Fausboll in the S. B. E. series Vol. X. on cattle-rearing by Kāśi Bharadvāja, a Brahmin 211; Brahmin peasant Bharadvāja 238, 246 fn.; *bhātaka* (day-labourer) 251 fn.; route from Śrāvastī to Patitṭhāna described 264; (commentary) on *Sirimā*, a courtesan whose mother was also a courtesan 257.

Suttavibhanga on *peśakāra* (weaver) 240; *rathakāra* 240; low castes and trades 248-49.

Taittirīya Āraṇyaka with the commentary of Bhāskara—Edited by Mahādeva Śāstrī in three vols. on the slaughter of the cow as an invariable accompaniment of the Rājāsūya, Vajapeya and the Aśvamedha ceremonies 110.

Taittirīya Brāhmaṇa with the commentary of Sāyaṇācārya in three vols. on *surā* as a drink of ordinary life 35 fn., 54; *tālpa* (son born on the nuptial bedstead i. e., legitimate son) 53; *Janaśruteya* as a *nagarin* 82; two kinds of rice: *āśu* and *mahāvrlhi* 94; 180 domestic animals to be sacrificed in Aśvamedha 110; beef-eating 110, 111; sacrifice of buffaloes 111; *vamāna* (loom) 115; *tūṣa* (a shorter fringe of the cloth corresponding to the modern *chilkā*) 116; *tārpya* (silk or linen garment) 119; *hiraṇya-kṛṣṇala* 125; *prākāśa* (according to Geldner looking glass) 134; *kācha* (glass or jewellery) 133, 135; *tālpa* (nuptial bedstead) made of *Udumvara* wood 137; *proṣṭha* (something like a high and broad bench) 137; mantras for the preparation of Soma drink 142; *śreṣṭhin* 152, 157 fn.;

loss of the former high status of the rathakāra through devotion to a mechanical art 152, 154; position of women with regard to agriculture 153—54; vanij (merchant) 158; setu (raised bank for crossing inundated land) 160 fn.; śatamāna (as a medium of exchange) 167; cattle driven out to graze thrice a day 167; āvasatha (structure of some sort for the reception of guests) 168 fn.; liberality of princes 173.

Taittirīya Saṃhitā (= Black Yajurveda) with the commentary of Śāyaṇācārya on separate ownership of land 82; ownership of land 82—84; story of Manu dividing his property among his sons 84; rise of landed aristocracy 88; law of inheritance 90; use of six or twelve oxen to drive the plough 90—91; plough-share 90—91; seasons bearing on agriculture 91; well-irrigation 93; crops grown 94; different kinds of trees 99, 103, plants 107 and grass 109; cow as a medium of exchange 111; use of bullocks in ploughing land and in drawing waggons and carriages 111; camel as an object of sacrifice 112; goat's milk as the highest form of draught 112, 112 fn.; bad effects of accepting the gift of a sheep 113; sheep used in drawing the plough 113; ass as "the best burden-gatherer of animals" 113; pits artificially made where the hunter could lie in wait 114; tortoise 114; prācinātāna (forward stretched web) 115; vāsas (cloth) 116; nīvi (closely woven end of the cloth) 116; praghāta (long and loose unwoven fringe with swaying tassels) 116; tūṣa (a shorter fringe of the cloth corresponding to the modern chilkā) 116; vātapāna (length-

wise border of the cloth which keep the web together from becoming thread-bare by fluttering in the wind) 116; uṣṇīṣa 111; tārpya (silk or linen garment) 119; kṣhauma (linen) 119; metals: gold, ayas, lead, tin, śyāma and loha 123; origin of silver 123; washing for gold 125; hiraṇyakṛṣṇala 125; śatamāna 125; hiraṇyagarbha 125; various kinds of ornaments like opāśa, sraja, puṇḍarīśraja and bhoga 128; silver plates 130; loha 131; śyāma 131; sickle to cut and trim the sacred grass 132; dhruva (wooden sacrificial ladle having the largest bowl) 136; juhu (wooden ladle) 136; upabhr̥t (wooden ladle) 136; wooden mace used in sacrifice 136; wooden Soma reservoir 136, 169; wooden instrument called sphya 136; wooden sacrificial posts 137; vanaspati (timber post) 137; piṭha (in piṭhasarpin), a wooden seat 137; āsandī (shining seat) whose use in ritual by a priest ensures sāmrajya for his client 138; waggon 138; boat 138; hide-dresser 139; dry skin-bag as sacrificial fee 140, 169 fn.; ritual shoes made of black antelope skin 140; mantras for repetition at every stage of the manufacture of Soma sacrificial drink 141; intoxicating effects of Soma drink; the story of Viśwarūpa 141; various kinds of altar-bricks 143—44; durya (door) 145 fn.; methi (pillar) 145 fn.; bhiṣak (physician) 150 fn.; physicians already came to be disliked 155; knowledge not descent making a brāhmaṇa 155; setu (raised bank for crossing inundated land) 160 fn.; śatamāna (as a medium of exchange) 165; milking cows thrice a day 167; ukhā (cooking pot) 169; brahma-udana

- 169 ; cooking left to the wife 171 ; ointment 176 ; Isikā (annointing instrument) 176 ; origin of collyrium 176 ; gambling as one of the causes of indebtedness 171.
- ✕ *Taittirīya Saṃhitā*—Keith's Eng. Trans. on separate ownership of land 82 ; father making common property with the son 83.
- Tāpdyā Mahā Brāhmaṇa* with the commentary of Śāyaṇācārya critically edited by Pāṇḍita A. Chinnaśwāmī Śāstri 1935. on beef-eating 110 ; golden sraja (an ornament) 128.
- Theogony of the Hindus*—Count Bjornstjerne on the points of similarity between the religious systems of Ancient India and Egypt 19—20.
- Therīgāthā* on Benares cloth fetching 1000 pieces 220 ; Benares famous for her silk fabrics 221 ; manumission of slaves 253 ; Vimalā, a courtesan whose mother was also one 257 ; śātakas worth 1000 pieces of copper 274 ; Isidāsī reduced to slavery in one of her previous births on account of her father's debts 275 ; ādhi (deposit of pledges on which loan was granted) 257.
- Therīgāthā* commentary on Puṇḍā's admission into the Buddhist saṃgha only after she was emancipated by her master 254 ; woman working as keeper of burning ground though no wages are mentioned 256.
- Times of India Illustrated Weekly* (7th March, 1926) on the prehistoric civilisation of the Indus valley 12—16.
- ✕ *Tod's Rājasthāna*—See under *Annals and Antiquities of Rājasthāna*—Col. Tod.
- Travels of Marco Polo*—Sir Henry Yule revised by Cordier on Indian dogs 164.
- Uvāsagadasa*—Eng. Trans. by A. F. R. Hoernle on the cities of Ālavī 180, Vārāṇasī 180, Champā 180, Indapatttha 181, Kāmpilya 181, Kośāmyi 181, Kuśīnārā 181, Mithilā 112, Polāsapura 182, Pāṭaliputtaka 182, Rājagīha 182, Sāṅkāśya 182, Sāketa 182, Setavya 182, Sagula 182, Suṃsumāra 183, Takkaśāṭṭhā 183, Ukkatṭha 183 and Vaiśālī 183 ; Vaiśālī was known as Vāṇlyagāma with Kulluga and Kundagāma as its suburbs 183 ; town-planning of Veśālī 185, 244 ; village of potters near Polāsapura 187, 225.
- Vaijayanti*—Yādavaprakāśa on the growth of villages into towns 183 fn.
- ✕ *Vāsiṣṭha Dharmasūtra*—Trans. into Eng. by George Buhler in the S. B. E. series vol. XIV. on the imposition of fines on village as a whole 190 ; village elders administering justice 190 ; distinction of royal domain from land of the ordinary landholders 191 ; mode of acquisition of property 191 ; proofs of title to property 192 ; provisions on the right of way and evidence in disputes regarding immovable property 192 ; acquiring property by usage 192—93 ; state management of the property of widows and minors 193 ; laws of inheritance and succession 193—95 ; one-sixth as the royal share of the wealth of the subjects 196 ; exemption from taxation 196 ; objects made of leather 226 ; objects made of bone and conchshell 229 ; actors condemned 249 ; the other condemned professions 249 fn. ; āpaddharma 250 ; slaves exempted from taxation owing to loss of *persona* 253 ; Brahmins permitted to barter home-grown corn, food etc., 267 ; *likhita* (=I. O. U.) 271, 275 ; money-lending

condemned 274 ; six different kinds of interest 275, 277 ; two, three, four and five in the hundred is the monthly rate of interest according to caste 275, 277 ; interest on articles like gold, grain, beasts of burden etc., without security could be increased six or eight-fold 275, 277 ; interest stopped with the death of the king in whose reign the transaction took place 275 ; king's duty to maintain śrotriyas, the weak, the aged, women without means and lunatics 275 ; property other than a Brahmin's left ownerless reverts to the crown 193, 276 ; undue raising of prices condemned 277 ; those exempted from taxes 277 ; food of the money-lender who exacted more than the legal rate of interest was impure 277 ; king's duty to guard against the falsification of weights and measures 277 ; begging Brahmins denounced as thieves 278.

Vājasaneyi Saṃhitā—See under White Yajurveda.

X Veda of the Black Yajur School—Keith
See under Taittiriya Saṃhitā—Keith's Eng. Trans.

X Vedic Index—Macdonell and Keith on Aryans having acquaintance with agriculture in the Indo-Iranian period 22 ; dāsa chiefs ruling over puras 23 ; private ownership of land 24, 82 fn. ; viś and jana 24 ; monarchy as a well-established institution in the R̥gvedic Age 25 ; rejection of Zimmer's view that the grāmaṇi was the president of the village council 25-26 ; use of sakṛt (manure) in the R̥gvedic Age ; well-irrigation in the R̥gvedic Age 29-30 ; Yava meaning any kind of grain and not barley 82 ; cow, though its flesh was taken was gradually acquiring sanctity

even in the R̥gvedic Age 33 ; salt in the R̥gvedic Age 34 ; Vedic surā (as opposed to Soma) being a drink of ordinary life 35 fn., 54 ; no mention of horse-riding in war in the R̥gveda 38 ; high social status of the rathakāra and the takṣan 45 ; vāya (weaver) 63 ; loha originally meaning copper later denoted iron 49 ; Agni and the sages as pathikṛt (path-makers) 66 ; otu 46 fn. ; existence of longer vessels with many oars for sea voyages in the R̥gvedic Age 68-69 ; paṇi 74 ; niṣka as a sort of currency 76 ; story of Manu dividing property among his sons 84 fn. ; the epithet devourer of the subjects applied to the king indicates king's political superiority and not his ownership of the soil 85, 85 fn. ; king's right to apportion the land with the consent of the clan as containing the germ of the later state-ownership of the soil 86 fn. ; vali (king's revenue) 87-88, 88 fn. ; only five seasons in the year 91 fn. ; drāpi as a coat of mail 117 fn. ; gold obtained from the bed of rivers 125 and from mines 125 ; vāya (weaver) 149 ; urdāra (a wooden vessel of definite size used in measuring grain) 164 ; kṛṣṇala, māṣa and other grains used as standards of weight in measuring precious metals 164 ; Vedic village 167 ; kṣatṛ : his functions 174 ;

X Vedic India—Ragozin on early cultivation of the cotton plant or tree by the Indo-Aryans 49 ; navigation unknown to the R̥gvedic Aryans 67.

X Vedic Mythology—Macdonell on the cure of Ghoṣā's skin-disease 63 ; well-irrigation in the R̥gvedic Age 29-30 ; story of Manu dividing property among his sons 84 fn.

Vedische Mythologie—A. Hillebrandt, revised and enlarged in two vols. 1927—29. on the preparation of Soma drink 34 fn.

Vedische Studien—Geldner on anūka as an ornament 51; the existence of the caste system in the R̥gvedic Age 58; prāvepa (looking glass) 135; harmyoṣṭhah prince 173-4.

Vedische Studien—Fischel (Vol. II.) on patsyasad [patsya (n) meaning a house] 55.

Vimānavattu commentary on the cities of Ayojjha 180, Vārāṇasī 180, Kāmpilya 181, Kośāmvī 181, Madhurā 181, Mithilā 182, Sāgala 182, Sāketa 182 and Vaiśālī 183; female slaves fetching water 252; a slave-girl beaten to death 255; story of a slave-girl flying to the forest to commit suicide, unable to bear rude treatment 255—56; trade-route from Kauśāmvī through Sind to Sovira 264.

✕ **Vinaya Texts**—Translated into English by T. W. Rhys Davids and Hermann Oldenburg in the S. B. E. series vols. XIII., XVII. and XX. on large holdings (of 8000 acres) 190; channels dug for co-operative irrigation likened to patch-work robe of the monks 200; hot-air baths 234; dagobās or topes 236; fresco-painting 237; physician's fee of 16,000 pieces for curing a merchant-prince's wife 239; a thief not to be ordained as a nun without the sanction of the guilds 244; guilds as arbitrators 244; parents discussing the best profession for their wards without a reference to the father's trade 246; low castes and low trades 248; fifty kahāpapas for one night as the fee of a courtesan (Amvapaṇī) 257; a Hindu merchant's seventh trading voyage on high seas 259; navigability by sea-

going ships of the Ganges and the Yamunā 264; taverns for the sale of liquor 265; hotels for the sale of cooked meat and rice 265; barter prescribed for the Buddhist Saṃgha in certain cases 207; suvarṇa and hiraṇya as media of exchange 269; one pāda was equal to five māṣakas in Rājagṛha in Ajātaśatru's time 270; the purchasing power of a copper kāṛṣāṇa 273; debtors unfit for admission into the Buddhist Saṃgha 275; famine 280.

Wages Question, The—Walker on Indians abiding in their lot with oriental stoicism and fatalism 247.

Western Origin of Chinese Civilisation—La Couperie on maritime intercourse between India and China from about 680 B. C. 162; foundation of an Indian colony about the present Gulf of Kiao—tchoa called Langga (after the Indian name of Lankā or Ceylon) 162.

White Yajurveda (together with the Kānva recension) on crops grown 93-94; forests supplying wild rice (nīvāra) 97, bdellium 97, animals 97 and honey 97; different kinds of trees 99, 100, 103, 104, 106, 107, 108; 609 animals brought for the Horse-sacrifice 109-10; bullocks carrying loads 111; sacrifice of buffaloes 111; horses given as sacrificial fee 112; camel as an object of sacrifice 112; asses drawing the car of the Aśvins 113; boar as an object of sacrifice to Indra 113; elephant-keepers 113; fishing in rivers and lakes 114; fish-vendor 114; technical terms connected with weaving like otu (wool), vemān (loom) and mayukha (wooden pegs to stretch the web on or shuttle) 115; vāsas (cloth) 116; threads of wool

118 ; *metals* : gold, *ayas*, *śyāma*, *loha*, lead, tin and silver 122-23 ; goldsmith 124, 128 fn. ; gold pieces 125 fn. ; a circular gold disc or plate with 21 knobs used in sacrifice 125 ; gold needles used in sacrifice 125 ; *hiranya-garbha* 125 ; sacrificial cauldron with golden handles 126 ; golden ornaments 127, 128 ; various ornaments like neck-chain, *opāśa*, gold worn as amulet 128 ; golden trappings for horses 128 ; silver needles used in sacrifice 130 ; *loha* 131 ; *śyāma* 131 ; iron-smelter 131 ; blacksmith 131 ; receptacle hammered or formed with a tool of *ayas* 131 ; metal jug 131 ; sickle to cut the ripened grain 131 ; knife 131 ; iron axe 132 ; razor 132 ; fetters made of iron 132 ; lead needles used in sacrifice 132 ; armour 132 ; iron castles (used figuratively) 132 ; *sruva* (small wooden sacrificial ladle) 136 ; *sruca* (large wooden ladle) 136 ; wooden sacrificial spade 136 ; wooden Soma reservoir 136, 169 ; four-cornered sacrificial cups of *Khadira* wood 136 ; mortar-shaped cup of *Palāśa* wood 136 ; wooden Soma cups 136, 169 ; wooden mortar and pestle for extracting Soma juice 136, 169 ; wooden needles used in stitching together the folding doors of the cart-shed 136 ; fire shovel or poker made of *Palāśa* wood 136, 169 ; wooden instrument called *sphya* 136 ; wooden sacrificial posts 137 ; *drupad* (timber post) 137 ; thrones made of *Khadira* wood 137 ; *piṭha* (in *piṭhasarpin*), a wooden seat 137 ; *āsandī* (shining seat) 137, 138 ; *rājāsandī* (shining seat for kings) 138 ; war-chariots 138 ;

carts 138, carriage 138 ; potter 140 ; *mṛṇmaya ukhā* (earthen cooking pot) 140, 169 ; *dvār* (door) 145 ; *durya* (door) 145 ; *duroṇa* (door) 145 ; principal occupations of the people 148 fn., 148—51, 174 ; women splitting cane, working in thorns, doing embroidery work, dealing in love charms, washing and dyeing cloths and making scabbards and ointments 153 ; *gaṇa* and *gaṇapati* 157 ; *vaṇij* (merchant) 158 ; references to the sea 161 ; *aritrām* (oar) 161 ; ship propelled by 100 oars 161 ; *tūlā* (balance) 164, 271 ; women fetching water 172 ; birth of industrious women, a blessing which the Horse-sacrifice will bring to the king 172 ; ointment-maker (usually a female) 176, 153 ; duty of the state to protect the life and property of the subjects as also to promote their material welfare 176—77 ; ideal of happiness which the king prays to the gods for his country to attain 178.

White Yajurveda—Eng. Trans. by R. T.

H. Griffith on different crops grown 94 ; the use of the timber of *Kārshamarya* tree (*Gmelina Arbora*) in making sacrificial *laules* 100 ; *Kṛmuka* tree as furnishing kindling sticks for sacrificial purposes 100 ; goat as an object of sacrifice to *Vāyu* 112.

Yājñavalkya *Samhitā* on the right of collecting grass, fruits and flowers enjoyed by Brahmins 82.

Zeitschrift der Deutschen Morgen landischen Gesellschaft (vol. IX.) : Max Muller on the different implements mentioned in the *Gṛhyasūtras* 224 fn. ; (vol. LI.) : Oldenburg on the existence of the caste system in the *Rgvedic* Age 58.

II. Subject Index.

[*The references are to the pages of this work*]

- Agriculture, clearance of forests for purposes of, 28; implements for, 28-29; application of manure for, 29, 92-93; irrigation for, 12, 29-30, 93, 260; rainfall a necessity for, 11, 30, 199-200; prayers and charms for rainfall 30, 96; charms to avert inundation 93, 96; prayer for a bumper harvest 96; troubles the agriculturist had to contend with 95-96; agricultural operations 31-32, 92-93, 198-99; successive stages of, 198-99; rotation of crops 91; khila system of, 91-22; cultivation of land by peasant-proprietors 197-98; cultivation of lands belonging to others 198; measures for the protection of the crops 199; ceremonies connected with, 30-31, 96, 199; products of, 32, 93-94, 95, 200-02; position of women in relation to, 153-54.
- Agriculture, not known to the Palæolithic Indians 1; in the Neolithic Age 3; in the Indus Valley in the Chalcolithic Age 11-12; known to the Aryans in the Indo-Iranian period 28; in the R̥gvedic Age 23-24, 28-32; in the Brāhmaṇa period 90-96; in the Age of Gautama Buddha 197-202.
- Agricultural products, in the R̥gvedic Age 32; in the Brāhmaṇa period 93-94; in the Age of the Rāmāyaṇa 95; in the Age of Gautama Buddha 200-02.
- Agriculturist, status of the, in the R̥gvedic Age 64; change for the worse in the Brāhmaṇa period 152, cf. 85.
- Alchemy ? (in the Age of the Rāmāyaṇa) 133.
- Arboriculture — See under Gardening, art of.
- Architecture, in the *Neolithic Age*: thatched huts 3; prehistoric cemeteries 6; in the *Copper Age*: megalithic monuments of Coimbatore and Hyderabad Cairn burials 8-9; in the *Chalcolithic Age*: dwelling houses of Mohenjo Daro with brick-filling bath rooms and paved washing places near wells 14-15; a temple with a bath at Mohenjo Daro 15-16; the dwelling houses of Harappa, one of which had narrow walls and corridors 16; brick-structures like Hindu Samādhi's 16; in the *R̥gvedic Age*: gṛha (a memorial structure erected over or beside the grave) 56; the harmya 56, 173-74; the vidatha (royal audience hall) etc. 57; in the *Brāhmaṇa period*: the ordinary dwelling house in which bamboo-work predominated 143; śmaśāna (memorial structures) of three kinds viz., vāstu, gṛha and prag-ñānam usually made of bricks or stones 144; timber architecture 145; āvasatha (a temporary structure for the reception of guests) 168; in the *Age of the Rāmāyaṇa*: Kaikeyi's Mahala with its krodhāgāra, citragṛha, latāgṛha etc.

174; Yuvarāja Rāma's Mahāla 174—75; Rāvapa's palace with its krodhāgāra, kāmāgṛha, divāvihāragṛha, citragṛha, latāgṛha, artificial mountains made of wood etc. 175; in the *Age of Gautama Buddha*: thatched houses 230; seven-storied buildings 230; dharmaśālā 230; āsana-śālā (resting place for travellers) 230; samethāgāra (town-hall) 230—31; chaitya 231; kṛdāśālā, of which a portion was reserved for the reception of guests, a portion for the poor and the helpless and a portion for the delivery of helpless women 231; a privy with doors in which a lamp was kept burning the whole night 231; buildings of five kinds in which monks were permitted by the Buddha to live viz., vihāra, ardhayoga, prāsāda, harmya and gūhā 231—32; hot-air baths 234; open air bathing tanks with flights of steps 234; temples 236; Vaiṭhaka of Jarāsandha and the walls of Rājagṛha 236; Khapdagiri and Udayagiri caves 236; Dagobās or Topes 236; Piprawa Stupa 236.

Arts and crafts, in the Palaeolithic Age: work in stone; work in bone 2; in the *Neolithic Age*: work in stone 3; pottery 3—4; gold-mining 4; pearl and conchshell industry 6; architecture: huts 3 and cemeteries 7; painting 4—5; sculpture 5—6; in the *Copper Age*: work in bronze 7, 8; work in silver 7; work in iron 8, 9; work in gold 8; pottery 8, 9; architecture: tombs of Cyclopean style in Tinnevely, Kurnool, Coimbatore and Anantapur districts 8—9; Hyderabad cairn burials 9; in the *Chalcolithic Age*: weaving 12; work in shell and terracotta 13; work in silver 13; work in gold 13; work in precious stones

13; work in ivory 13; work in copper 13; work in bronze 13; pottery 13—14; architecture 14—16; town-planning in Mohenjo Daro 14 and in Harappa 16; in the *Rgvedic Age*: weaving of wool 45—48 and of cotton 49; work in ayas 49—50; work in gold 50—52; carpentry 52—53; pottery 53; leather-work 54; manufacture of liquor 54; architecture 54—57; painting 57; sculpture 57; in the *Brāhmaṇa period*: weaving 115—22; mining 122—24; work in gold 124—30; work in silver 130; work in ayas and loha 130—33; work in bell-metal 133; work in brass 133; alchemy? 133; art of the jeweller 133—34; glass work? 134—35; carpentry 136—39; leather-work 139—40; pottery 140; work in ivory 140; manufacture of liquor 141—42; painting 142; sculpture 143—45; town-planning 145—48; arboriculture 103—04; in the *Age of Gautama Buddha*: work in iron 214—16; work in copper 216; work in silver 216; work in bell-metal 216; work in brass 216; work in gold 216—17; art of the jeweller 217—18, 214; weaving 218—22; carpentry 222—24; work in grass and reeds 224—25; pottery 225—26; leather-work 226—27; wine distilling 227—28; work in stone 228; work in ivory 228; work in bone, conchshell and coral 229; preparation of salt 229 and of molasses 229; dyeing 229; stiffening cloth with starch and polishing it with conch 229—30; curling cloth into a thousand folds before wearing it 230; architecture 230—36; sculpture 236—37; painting 237.

Articles of foreign trade, in prehistoric times 17-18; 20-21, 72; in the Rgvedic

Age 71 ; in the Brāhmaṇa period 163-64 ; in the Age of the Rāmāyana 162 ; in the Age of Gautama Buddha 260, 262.

Articles of domestic trade in the Rgvedic Age 65 ; in the Brāhmaṇa period 158 ; in the Age of the Rāmāyana 158 ; in the Age of Gautama Buddha 265.

Aryans acquainted with agriculture in the Indo-Iranian period 22—23.

Āsava 171.

Ayas, in the Rgvedic Age 49-50 ; in the Brāhmaṇa period 130—31.

Barter, in the Rgvedic Age 75 ; in the Brāhmaṇa period 164 ; in the Age of Gautama Buddha 267—68.

Beef-eating, in the Chalcolithic Age 12 ; in the Rgvedic Age 33 ; in the Brāhmaṇa period 110—11.

Bell-metal industry, in the Age of the Rāmāyana 133 ; in the Age of Gautama Buddha 216.

Borax 123, 125.

Brass industry, in the Brāhmaṇa period 133 ; in the Age of the Rāmāyana 133 ; in the Age of Gautama Buddha 216.

Bronze industry in the Copper Age 78 ; in the Chalcolithic Age 13.

Burma find 1, 2.

Canal irrigation, in the Rgvedic Age 29 ; in the Brāhmaṇa period 93.

Carpentry, in the Rgvedic Age 52-53 ; in the Brāhmaṇa period 136-39 ; in the Age of the Rāmāyana 139 ; in the Age of Gautama Buddha 222—24.

Caste system in relation to mobility of labour, in the Rgvedic Age 58-62 ; in the Brāhmaṇa period 154-56 ; in the Age of Gautama Buddha 244, 246-50.

Cattle-rearing, in the Chalcolithic Age 12 ; in the Rgvedic Age 35—41 ; in the Brāhmaṇa period 109-13 ; in the Age of Gautama Buddha 211.

Ceremonies connected with agriculture, in the Rgvedic Age 30—31 ; in the Brāhmaṇa period 96 ; in the Age of Gautama Buddha 199.

Chalcolithic civilisation of the Indus Valley, its affinity with Sumerian culture 11, 16-17 ; prosperous agriculture on a flat plain subject to floods 11 ; ampler rainfall than today: evidences for it 11—12 ; crops grown: wheat and cotton 12 ; hunting, fishing and weaving industries 12 ; dress and ornaments of the people 12—13 ; work in shell and terracotta, in silver, in gold, in precious stones, in bronze and copper 13 ; pottery 13-14 ; dwelling houses at Mohenjo Daro 14-15 and at Harappa 16 ; a temple and a public bath at Mohenjo Daro 15-16 ; town-planning at Mohenjo Daro and Harappa 14, 16 ; internal trade 16—21.

Character of foreign trade in Ancient India 280.

Civic consciousness in the Age of the Rāmāyana 148.

Civilisation of the Copper Age : work in copper 7, 9 ; in bronze 7, 8 ; in silver 7 ; in iron 8 ; in gold 8 ; pottery 8, 9 ; architecture : Cyclopean style of construction of the tombs 8-9 ; probable Egyptian influence on the pottery and on the construction of the tombs of this

- age 8-9 ; methods and media of exchange 9—10.
- Classification of villages 186—87.
- Combination between merchants, in the R̥gvedic Age 74—75 ; in the Age of Gautama Buddha 242, 263, 267.
- Competition determining prices, in the R̥gvedic Age 65—66 ; in the Age of Gautama Buddha 265—66.
- Conchshell industry, in the Neolithic Age 6 ; in the Chalcolithic Age 13, 16 ; in the Age of Gautama Buddha 229.
- Copper Age antiquities 7—9.
- Copper industry, in the Copper Age 7, 8, 9 ; in the Chalcolithic Age 13 ; in the R̥gvedic Age 49-50 ; in the Brāhmaṇa period 130-31 ; in the Age of Gautama Buddha 216.
- Coral, work in, in the Age of the Rāmāyana 124, 134 ; in the Age of Gautama Buddha 212, 229.
- Cornering 266.
- Corporate life in the towns (in the Age of Gautama Buddha) 185—86.
- Corporate life in the villages, in the R̥gvedic Age 25—26 ; in the Age of Gautama Buddha 188—90.
- Cotton, cultivation of, in the Chalcolithic Age 12 ; in the R̥gvedic Age 49 ; in the Brāhmaṇa period 119-20 ; in the Age of Gautama Buddha 220.
- Cotton industry, in the Chalcolithic Age 12 ; in the R̥gvedic Age 49 ; in the Brāhmaṇa period 119-20 ; in the Age of Gautama Buddha 219-20.
- Cow as a standard of value, in the R̥gvedic Age 9-10, 75 ; in the Age of Pāṇini 268 ; in the Sūtra period 268.
- Cowry-shell as a standard of value (in the Jātaka period) 268.
- Craft-guilds—*See* under Guilds.
- Currency, in prehistoric times 9-10 ; in the R̥gvedic Age 75—77 ; in the Brāhmaṇa period 164—67 ; in the Age of Gautama Buddha 268—71. For details *See* under Methods and Media of exchange.
- Custom influencing prices 266.
- Dealing in futures 266.
- Dignity of labour, in the R̥gvedic Age 61-62 ; loss of this dignity in the Brāhmaṇa period 152, 154-55 and in the Age of Gautama Buddha 243—49.
- Domestic furniture, in the R̥gvedic Age 53 ; in the Brāhmaṇa period 168 ; in the Age of the Rāmāyana 169 ; in the Age of Gautama Buddha 217, 222—23.
- Domestic economy, in the R̥gvedic Age 64—65 ; in the Brāhmaṇa period 153-54, 171—72.
- Domestic trade, in the Chalcolithic Age 16 ; in the R̥gvedic Age 65—67 ; in the Brāhmaṇa period 158—60 ; in the Age of Gautama Buddha 262—67.
- Domestic utensils, in the Neolithic Age 3 ; in the Copper Age 8 ; in the Chalcolithic Age 13 ; in the R̥gvedic Age 50, 53, 54 ; in the Brāhmaṇa period 168—69 ; in the Age of Gautama Buddha 215-17.
- Domesticated animals—*See* under Cattle-rearing.
- Drainage system, (in the towns of Mohenjo Daro and Harappa in the Chalcolithic Age) 11 and in Benares in the Age of Gautama Buddha 180.

Dress of the people, in the Chalcolithic
Age 12—13 ; in the R̥gvedic Age 47—
48 ; in the Brāhmaṇa period 117—18 ;
in the Age of Gautama Buddha 219,
229—30.

Dried fish as food 227.

Duties levied by the king 277.

Dyeing industry 229.

E

Economic condition of the classes and the masses—See under General economic condition of the classes and the masses.

Excavations at Mohenjo Daro and Harappa
11—16.

Exemption from taxation 277.

Extent of Aryan expansion in the R̥gvedic
Age 22 ; in the Brāhmaṇa period 81.

F

Falsification of weights and measures con-
demned 277.

Famine ; in the R̥gvedic Age 80 ; in the
Brāhmaṇa period 96—97 ; in the Age
of Gautama Buddha 279—80.

Famine relief 276.

Female labour, in the R̥gvedic Age 64—
65 ; in the Brāhmaṇa period 153—54
171—72 ; in the Age of Gautama
Buddha 256—67.

Fishing, in the Chalcolithic Age 12 ; in
the R̥gvedic Age 33, 44 ; in the
Brāhmaṇa period 114, 170-71 ; in the
Age of Gautama Buddha 212.

Food of the people, in the Palæolithic Age
2 ; in the Neolithic Age 3 ; in the
Copper Age 8 ; in the Chalcolithic Age
12 ; in the R̥gvedic Age 32—35 ; in the
Brāhmaṇa period 169—71.

Forced labour 276—77, 279.

Foreign trade of India, in the Chalcolithic
Age 16—21 ; in the R̥gvedic Age 69—74 ;
in the Brāhmaṇa period 162—64 ; in
the Age of Gautama Buddha 263—62,
280. For details *See* under Trade of
India, Articles of foreign trade and
Maritime trade-routes.

Forests and their economic importance, in
the R̥gvedic Age 41—43 ; in the
Brāhmaṇa period 97—109 ; in the Age
of Gautama Buddha 202—09.

Free labourers, their dignified status in
the R̥gvedic Age 61-62 ; loss of their
former status in the Brāhmaṇa period
152, 154—55 and in the Age of Gautama
Buddha 248—49 ; their frivolous though
gay life 251 ; their general economic
condition 251.

Fruits, in the R̥gvedic Age 33 ; in the
Brāhmaṇa period 105 ; in the Age of
Gautama Buddha 207—08.

G

Gardening, art of, in the Age of the
Rāmāyana 103—04 ; in the Jātaka
period 213 ; in the Sūtra period 213.

General economic condition of the classes
and the masses, in the R̥gvedic Age
77—80 ; in the Brāhmaṇa period
167—77 ; in the Age of Gautama
Buddha 278—80.

Geographical mobility of labour 247.

Glass industry ? (in the Brāhmaṇa period)
134—35.

Godavari flake 1, 2.

Gold industry, in the Palæolithic and Neoli-
thic Ages 4 ; in the Chalcolithic Age
13 ; in the R̥gvedic Age 50—52 ; in the

Brāhmaṇa period 124—29 ; in the Age of the Rāmāyaṇa 129—30 ; in the Age of Gautama Buddha 216—17.

Grass : its different varieties, in the R̥gvedic Age 43 ; in the Brāhmaṇa period 108 ; in the Age of Gautama Buddha 209.

Grass, work in, 224—25.

Guilds, in the R̥gvedic Age 74—75 ; in the Brāhmaṇa period 156—58 ; in the Age of the Rāmāyaṇa 258 ; in the Age of Gautama Buddha 242—43 : their organisation 157, 243, 245 ; their three principal characteristics : (1) an Alderman at the head 243, (2) hereditary of profession 244 (3) localisation of industry 243-44 ; their legislative, judicial and executive functions 244.

Gunteria board 7.

H

Haggling over prices 65-66, 265.

Herbs, in the R̥gvedic Age 43 ; in the Brāhmaṇa period 105—07 ; in the Age of Gautama Buddha 208—09.

Hoarding of wealth 274.

Horse-racing (in the R̥gvedic Age) 39.

Horse-riding (in the R̥gvedic Age) 38—39.

Horticulture—*See* under Gardening, art of.

House-building : thatched huts in the Neolithic Age 3 ; in the Chalcolithic Age 14-15, 16 ; in the R̥gvedic Age 54-57 ; 173-74 ; in the Brāhmaṇa period 143-45, 167-68, 174-75 ; in the Age of the Rāmāyaṇa 174-75 ; in the Age of Gautama Buddha 230—34, 235. For details *See* under Architecture.

Hunting, in the Palæolithic Age 1 ; in the Neolithic Age 3 ; in the Chalcolithic

Age 12 ; in the R̥gvedic Age 43-44 ; in the Brāhmaṇa period 113-14 ; in the Age of Gautama Buddha 211—12.

I

Indebtedness of the people—*See* under Loans.

Indian trade or commerce with Arabia, Assyria, Babylon, Burma, Ceylon, Chaldaea, China, Egypt, Mesopotamia, Persia and Phœnicia—*See* under Trade of India.

Inheritance—*See* under Law of inheritance.

Inland trade-routes, in the Chalcolithic Age 16 ; in the R̥gvedic Age 66 ; in the Brāhmaṇa period 159-60 ; in the Age of Gautama Buddha 263—64.

Internal trade—*See* under Domestic trade.

Instruments of credit 271, 271 fn.

Iron, in the Neolithic settlement in the Bellary district 4 fn. ; articles made of iron found in the burial sites of Adichanallur in Tinnevely 8 ; in the R̥gvedic Age ? 49-50 ; in the Brāhmaṇa period ? 131 ; in the Age of the Rāmāyaṇa 131-33 ; in the Age of Gautama Buddha 214—16.

Irrigation, in the Chalcolithic Age 12 ; in the R̥gvedic Age 29-30 ; in the Brāhmaṇa period 93 ; in the Age of Gautama Buddha 260.

Ivory, work in, in the Age of the Rāmāyaṇa 140 ; in the Jātaka period 228.

J

Jewellery, in the prehistoric burial sites at Adichanallur in Tinnevely 8 ; in the Chalcolithic Age 13 ; in the Brāhmaṇa period 133 ; in the Age of the Rāmāyaṇa 133-34 ; in the Age of

Gautama Buddha 217—18 ; in the Piprawa stupa 214.

K

irrigation system of cultivation 91-92.

kāśa, a variety of surā 142, 227.

L

Labour—*See* under Free labourers and Slavery.

Land-ownership—*See* under Land system.

Land revenue, the amount of the royal share in the Brāhmaṇa period 88 and in the Age of Gautama Buddha 195—96 ; payable either in cash or in kind 88, 197 ; land survey 196 ; land revenue administration 193—97.

Land system : division of land into vāstu, arable land, pasture and forests ; vāstu and arable land in individual ownership and pasture and forests in communal ownership 23-24, 82, 191—93 ; land belonged to the members of the joint family in common 82—84 ; transfer of land 84 ; feeling against land-transfer in the Śatapatha Brāhmaṇa 85 ; no state-landlordism in the R̥gvedic Age 24—25, in the Brāhmaṇa period 85—87 and in the Age of Gautama Buddha 190-91 ; royal domain 190-91 ; land revenue in the R̥gvedic Age 25, in the Brāhmaṇa period 87—88 and in the Age of Gautama Buddha 195—97 ; land tenure 197-98 ; rise of landed aristocrats and its causes 88—89, 173 ; an ideal economic holding according to Baudhāyana 190.

Land tenure: peasant-proprietorship 197-98 ; bhāgchāṣa 198 ; Zamindari system 88-89, 173.

Landed aristocracy, causes favouring the growth of, (in the Brāhmaṇa period) 88-89, 173.

Law of inheritance in the R̥gvedic Age 89 ; in the Brāhmaṇa period 89—90 ; in the Age of Gautama Buddha 193—95.

Leather-work, in the R̥gvedic Age 54 ; in the Brāhmaṇa period 139-40 ; in the Age of Gautama Buddha 226—27.

Linen industry, in the Brāhmaṇa period 119 ; in the Age of the Rāmāyaṇa 120—21 ; in the Age of Gautama Buddha 220—21.

Loans, in the R̥gvedic Age 79-80 ; in the Brāhmaṇa period 177 ; in the Age of Gautama Buddha 274-75, 279.

Localisation of arts and crafts 243—44, cf. 184, 185.

Low castes and low trades 248—49.

M

Manufacture of liquor, in the R̥gvedic Age 34-35, 54 ; in the Brāhmaṇa period 141-42 ; in the Age of the Rāmāyaṇa 142 ; in the Age of Gautama Buddha 227—29.

Manure in the R̥gvedic Age 29 ; in the Brāhmaṇa period 92—93.

Maritime trade—*See* under sea-borne trade.

Maritime trade-routes, in the R̥gvedic Age 70, 73—74 ; in the Brāhmaṇa period 163 ; in the Age of Gautama Buddha 261.

Meat-eating, in the Palaeolithic Age 2 ; in the Neolithic Age 3 ; in the Chalcolithic Age 12 ; in the R̥gvedic Age 33 ; in the Brāhmaṇa period 110—13, 170.

Mendicancy, condemnation of, 278.

Merchants' guild—*See* under Guilds.

Methods and Media of exchange, in *prehistoric times*: during the pastoral stage cow as the medium of exchange 9—10; in the agricultural stage when commerce developed itself garments and coverlets served as measures of value 10; punch-marked coins with prehistoric symbols on them 10; finds of coins of the *Chalcolithic Age* at Mohenjo Daro and Harappa 11; in the *R̥gvedic Age*: cow as a medium of exchange 75; niṣka 75—77, māna 77 and hiraṇyapīṇḍa as metallic media of exchange; was the niṣka a coin? 76; in the *Brāhmaṇa period*: barter 164; niṣka 164—65, śatamāna 165—66, suvarṇa 166, pāda 166—67; kṛṣpāla 167 as metallic media of exchange; in the *Age of Gautama Buddha*: barter 267—68; rice, cowry-shell and the cow as media of exchange 268; kākaṇika, ardhamaśaka, māśaka, quarter kārṣa, half kārṣa, kārṣāpaṇa, pāda, paṇa, śatamāna, niṣka, suvarṇa, hiraṇya, kaṁsa and vīṣa as metallic media of exchange 269—70; stamped impressions on some of the media of exchange 269.

Milk and preparations from milk, in the *R̥gvedic Age* 34, in the *Brāhmaṇa period* 110, 171.

Mining and metal industries, in the *Copper Age* 7—9; in the *Chalcolithic Age* 12—13; in the *R̥gvedic Age* 49—52; in the *Brāhmaṇa period* 122—35; the *Age of Gautama Buddha* 209—10, 214—18.

Mixed metal industries: *bell-metal*: in the *Brāhmaṇa period* 133; in the *Age of the Rāmāyana* 133; in the *Age of Gautama Buddha* 216; *brass*, in the *Brāhmaṇa period* 133; in the *Age of*

the *Rāmāyana* 133; in the *Age of Gautama Buddha* 216; *bronze*, in the *Chalcolithic Age* 13.

Mobility of labour—*See* under Caste system in relation to mobility of labour.

Molasses, preparation of, 229.

Moneylending—*See* under Loans.

Monsoons, discovery of, 74.

N

Navigation in the *R̥gvedic Age* 67—74; in the *Brāhmaṇa period* 160—63; in the *Age of Gautama Buddha* 256—59, 262.

Neolithic civilisation: knowledge of agriculture: its evidences 3; articles for domestic use betraying fascination for colour 3; polished work in stone 3; pottery 3—4; gold-mining 4; rock-paintings near Singapur in C. P. 4—5, in Kappallu in Bellary district 5 and the cave-paintings in the Kymore ranges 5; sculpture in the Edakal cave, Wynaad 5—6; knowledge of thatched huts 3; use of cemeteries and graves 6; pearl-fishery and conch-shell industry 6.

No Bronze Age in India 7.

No Copper Age in South India 7.

No Golden Age in prehistoric times 1.

No state-landlordism in the *R̥gvedic Age* 24—25; in the *Brāhmaṇa period* 85—87; in the *Age of Gautama Buddha* 190—91.

O

Occupations of the people, in the *R̥gvedic Age* 62—64; in the *Brāhmaṇa period* 148—52; in the *Age of Gautama Buddha* 237—42.

Origin of villages, in the R̥gvedic Age 25 ;
in the Age of Gautama Buddha 186
—88.

Ornaments, in the Copper Age 7, 8 ; in the
Chalcolithic Age 12—13 ; in the R̥gvedic
Age 51—52 ; in the Brāhmaṇa period
127—29 ; in the Age of the Rāmāyaṇa
129—30, 133, 133—34 ; in the Age of
Gautama Buddha 217—~~28~~.

P

Painting in the Neolithic Age 4—5 ; in
the R̥gvedic Age 57 ; in the Brāhmaṇa
period 142 ; in the Age of the Rāmāyaṇa
142 ; in the Age of Gautama Buddha
237.

Palæolithic civilisation : Palæolithic settle-
ments not only near rocks suitable for
fashioning tools but also near rivers and
lakes 2 ; no private property in land,
no division of labour, no knowledge of
metals or of pottery 1 ; stone tools and
weapons 1 ; bone weapons and imple-
ments in the Billa Surgam caves of
Karnaul 2 ; smoked flesh as food 2.

Pātṇa, an intoxicating drink 35, 54.

Parisrut, 142.

Partnership 267.

Pearlfishing in the Neolithic Age 6 ; in the
R̥gvedic Age 44 ; in the Brāhmaṇa
period 114—15 ; in the Age of the
Rāmāyaṇa 124, 129, 134 ; in the Age
of Gautama Buddha 212, 217, 218.

Pig-culture 211.

Piprawa Stupa : excellence of its construc-
tion and of the jewellery it contains
214.

Plants in the R̥gvedic Age 43 ; in the
Brāhmaṇa period 105—08 ; in the Age

of Gautama Buddha 206—07 ; 208
—09.

Ports of departure from India 262.

Poultry-farming 211.

Precious stones, in the Chalcolithic Age
13, 16 ; in the R̥gvedic-Age 71, 72 ; in
the Brāhmaṇa period 163—64 ; in the
Age of the Rāmāyaṇa 124, 129, 134 ;
in the Age of Gautama Buddha 214,
218, 262.

Prices, influence of competition on, 65—
56, 265—66 ; influence of custom on,
266 ; state control of, 277.

Private ownership of land, in the R̥gvedic
Age 23—24 ; in the Brāhmaṇa period
82—85 ; in the Age of Gautama Buddha
191—93.

Protection of the crops 199.

Purchasing power of money (in the Jātaka
period) 272—74.

Puruṣa Sūkta hymn, dealing with a theory
of creation, not of caste 60—61.

R

Raising of prices, condemnation of, 277.

Rate of interest, in the R̥gvedic Age 79 ;
in the Brāhmaṇa period 177 ; in the
Sūtra period 274—75.

Reels, in the R̥gvedic Age 43 ; in the
Brāhmaṇa period 108—09 ; in the Age
of Gautama Buddha 209.

Regulation of prices 266, 277.

Relative value of gold and silver 271.

Rice as a standard of value (in the Jātaka
period) 268.

Rotation of crops 91, 91 fn.

Royal revenue, in the Brāhmaṇa period 87—88 ; in the Age of Gautama Buddha 195—97, 210—11, 276—77, 279.

S

Salt industry, in the R̥gvedic Age 33—34 ; in the Brāhmaṇa period 34 ; in the Age of Gautama Buddha 229.

Sculpture, in the Neolithic Age 5—6 ; in the R̥gvedic Age 57—58 ; in the Brāhmaṇa period 142 ; in the Age of the Rāmāyaṇa 142 ; in the Age of Gautama Buddha 236—37.

Sea-borne trade, in the R̥gvedic Age 67—74 ; in the Brāhmaṇa period 160—64 ; in the Age of Gautama Buddha 257—62.

Seasons in the Vedic Age 91 fn.

Ship-building industry, in the R̥gvedic Age (a vessel with 100 oars) 68 ; in the Brāhmaṇa period (vessels having two rudders) 139, 161 ; in the Jātaka period 259—60.

Silk industry, in the Brāhmaṇa period 119 ; in the Age of the Rāmāyaṇa 121—22 ; in the Age of Gautama Buddha 221.

Silver, work in, in the Copper Age 7 ; in the Brāhmaṇa period 130 ; in the Age of the Rāmāyaṇa 130 ; in the Age of Gautama Buddha 216.

Slavery, in the R̥gvedic Age 64, 153 ; in the Brāhmaṇa period 153 ; in the Age of Gautama Buddha 252—56.

Slaves, the classification of, 252 ; causes of slavery 252, 79 ; status of, 252—54, 153, 64 ; usual duties of, 153, 252 ; manumission of, 253 ; their lot far better than that of the Greek or Roman slaves 254—56 ; no slave-market 153 ; slavery

did not become the basis of husbandry 64, 152.

Soma drink, in the R̥gvedic Age 34-35, 54 ; in the Brāhmaṇa period 141-42.

State control over prices 277.

State protection to the śrotriyas, the weak, the aged, women without means and the lunatics 276.

State protection of the property of infants 276.

Stone, work in, in the Palæolithic Age 1, 2 ; in the Neolithic Age 3 ; in the Age of Gautama Buddha 228.

Successive stages of agriculture 198—99.

Surā, in the R̥gvedic Age 35, 54 ; in the Age of the Rāmāyaṇa 142, 171 ; in the Age of Gautama Buddha 227.

State help to the famine-stricken 276.

State in relation to economic life, in the Brāhmaṇa period 177-78 ; in the Age of the Rāmāyaṇa 178 ; in the Age of Gautama Buddha 275—78.

T

Tin, in the Chalcolithic Age 13 ; in the Brāhmaṇa period 122, 123 ; in the Age of the Rāmāyaṇa 123.

Tools and weapons, in the Palæolithic Age 1-2 ; in the Neolithic Age 3 ; in the Copper Age 7 ; in the Chalcolithic Age 13 ; in the R̥gvedic Age 50 ; in the Brāhmaṇa period 131-32 ; in the Age of Gautama Buddha 215.

Towns, origin of, 183-84 ; division into wards 185 ; parks in, 183 ; avenues of trees in, 101 fn., 147 ; arbours of trees in, 213, 147 ; town-hall 230-31 ; main buildings in, 147 ; town-planning 16,

145—47, 184—85 ; corporate life in, 185—86.

Towns in the Chalcolithic Age 14—16 ; in the R̥gvedic Age 26—28 ; in the Brāhmaṇa period 81—82 ; in the Age of Gautama Buddha 179—86.

Town-planning, in the Chalcolithic Age (at Harappa, specially at Mohenjo Daro) 16 ; in the Brāhmaṇa period 145—47 ; in the Age of the Rāmāyaṇa 147 ; in the Age of Gautama Buddha 184—85.

Trade of India, with *Arabia* in prehistoric times 72, in the Age of the Rāmāyaṇa 161 ; with *Assyria* in the Brāhmaṇa period 163, in the Age of Gautama Buddha 260 ; with *Babylon* in prehistoric times 16—17, 72—73, in the Brāhmaṇa period 162—63, in the Age of Gautama Buddha 260 ; with *Burma* (Suvarṇabhūmi) 261 ; with *Ceylon* 261 ; with *Chaldeæ* 72 ; with *China* 161—62 ; with *Egypt* in prehistoric times 17—21, 70—71 ; with *Mesopotamia* in prehistoric times 16—17, 70—71 ; with *Persia* in prehistoric times 16—17, 69—70, in the Brāhmaṇa period 163, in the Age of Gautama Buddha 261 ; with *Phœnicia* in prehistoric times 69—70.

Trade-routes in the Chalcolithic Age 16 ; in the R̥gvedic Age 66, 70, 73—74 ; in the Brāhmaṇa period 159—60, 163 ; in the Age of Gautama Buddha 261, 263—64.

Trees, in the R̥gvedic Age 42 ; in the Brāhmaṇa period 98—105 ; in the Age of Gautama Buddha 204—08.

U

Use of the horse in war in the R̥gvedic Age 38—39.

Usury, 275 ; usurers organised into guilds 275 ; their exactions condemned 277.

Villages, origin of, 25, 183—88 ; classification of, 186—87 ; administrative machinery of, 25—26 ; corporate activity in, 25—26, 188—90.

W

Weaving industry, in the Chalcolithic Age 12 ; in the R̥gvedic Age 45—49, in the Brāhmaṇa period 115—20 ; in the Age of the Rāmāyaṇa 120—22 ; in the Age of Gautama Buddha 218—22. For details *See* under cotton, linen, silk and woolen industries.

Weights and measures, in the R̥gvedic Age 77 ; in the Brāhmaṇa period 164, 271 ; in the Age of Gautama Buddha 271—72.

Wine-distilling—*See* under Manufacture of liquor.

Woolen industry, in the R̥gvedic Age 48 ; in the Brāhmaṇa period 118—19 ; in the Age of the Rāmāyaṇa 121 ; in the Age of Gautama Buddha 221—22.

Work in bones, in the Palæolithic Age 2 ; in the Age of Gautama Buddha 229.

Work in corals—*See* under Coral, work in.

Work in grass and reeds—*See* under Grass, work in.

Work in horn 229.

Work in stone—*See* under Stone, work in.

Index III. Proper Names.

[*The references are to the pages of this work*]

A

- Aboasin (= the Indus) 19.
Abyssinia 19.
Abyssinians 20.
Aciravati river 182.
Aden 7.
Adichanallur 8, 18.
Ādityas 80.
Ælian 210.
Agastya 105 fn., 111.
Agni 26, 37, 66, 83, 125, 153 fn., 159, 177.
Agra 27, 33, 135.
Ahina sacrifices 239.
Ajantā caves 232.
Ajātaśatru, King 156, 184, 278.
Ajigarta 82.
Ākhurāja 199.
Akkad 72, 73.
Akkadian 77.
Al-Uhaid 17.
Alexander 77, 236.
Alexandria 73.
Allahabad 181.
Ālavī 180.
Amara (siṃha) 206, 207 fn.
Amenophis 19.
America 280.
Amitratāpanā 273 fn.
Amulya Ch. Sen 257 fn.
Amvapāli 192, 257.
Anantapura 4, 8, 18.
Anāthapiṇḍaka 192, 254, 255.
Andhapura 180.
Andhras 81.
Andrew Lang 61.
Anga 95, 97, 180.
Angirasas, the 168.
Anghā 199.
Angul 2.
Anupiya city 180.
Anurādhapura 234 fn.
Ānandakumāra 259.
Apalā 24.
Āpasthamva 186, 192 fn., 193 fn., 194, 195,
203 fn., 244, 244 fn., 249 fn., 250, 267fn.,
268 fn., 276, 276 fn., 277 fn.
Āptaryāma 141.
Arabia 70, 72, 74, 163.
Arabian Sea 69, 70.
Aradā 199.
Aradus, isle 70.
Aramic script 73.
Arāti 47.
Arcot 9 fn.
Ariṣṭapura city 180.
Aristobulus 199.
Armenia 73.
Arrian 77, 163, 200 fn., 212 fn., 226 fn.,
228 fn.
Asitāñjana city 180.
Asmodeus 106.
Asoka forest 103, 122, 147.
Assakenoi, the 163.
Assapura 180.
Assyria 72, 133.
Assyrian 163, 260.
Astakenoi, the 163.
Āśvamedha 110, 111, 126.

Āśvapati, King 156.
 Āświnī 28, 40, 96, 112, 113, 154.
 Āsanga 78.
 Āsandhīvat 81.
 Atithigva 78.
 Atirātra rite 141.
 Atri 24.
 Aṭṭaka city 180.
 Attock 19.
 Ātavi 180.
 Avantī 183.
 Ayodhyā kingdom 95, 120, 124, 142.
 Ayodhyā city 95, 101 fn., 105 fn., 121,
 122, 133, 146, 147, 148, 180, 182.
 Ayodjhā city = Ayodhyā 180.
 Ayomukha mountain 124.

B

Babylon 17, 21, 70, 71 fn., 146, 163, 260,
 262, 267.
 Babylonians 164.
 Baccanalia 227.
 Bactrian 163.
 Baden Powell 64.
 Bāhlika 112, 158.
 Balfour S. H. 49.
 Balkh 74.
 Ball, V. 70, 210, 210 fn.
 Ballensen, Dr. 57.
 Barker 19 fn.
 Barley island 162 fn.
 Baroda 4.
 Barygaza 164.
 Baudhāyana 141, 163, 186, 190, 193 fn.,
 194, 195, 196, 203 fn., 248, 250, 250 fn.
 260, 268 fn., 274, 275 fn., 276.
 Ball 124.
 Beal 236 fn.
 Bellary 3, 4, 4 fn., 5.
 Beluchistan 4, 11, 14, 17.
 Benares 27, 179, 180, 181, 185, 186, 187,
 220, 221, 224, 228, 238, 239, 251, 264,
 265, 267, 273 fn., 274, 279.

Bengal 231.
 Beśāra 183.
 Bhadravātikā 180.
 Bhaga 137, 157 fn., 199.
 Bhaṇḍagāma 264.
 Bhāṇḍārkāra D. R. 9.
 Bhārut Topes 233 fn.
 Bharadwāja 33, 56, 121.
 Bharata 95, 121, 122, 124, 133, 158, 178.
 Bhava 79.
 Bhujya 68.
 Bihar 81.
 Bijnai river 2.
 Billa Sangam 2.
 Birś Nimrod 163.
 Bjornstjirna, Count 20 fn.
 Blanford H. F. 1 fn.
 Bloomfield 51 fn., 150 fn.
 Blue river 19.
 Bodhisattva 231, 237.
 Bohlen Von 71.
 Bohtlingh 166.
 Book of Genesis 20.
 Brahmā 147.
 Brāhmi alphabet 260.
 Bṛhadratha 153 fn.
 Brahmottara city 180.
 Bṛhaṣpati 30, 172.
 Broach 16, 164, 260, 261.
 Bruce Foote 3 fn., 4 fn., 5 fn.
 Bṛvu 79.
 Buddha, the 179, 181, 192, 200, 219, 231,
 236, 239, 245, 251, 254, 255, 261, 278.
 Buddhaghosa 231 fn., 233 fn.
 Bühler 67, 260.
 Burma 261, 262.
 Burma find 1.
 Byzantine 76.

C

Calcutta 27.
 Caldwell, Dr. 71, 71 fn., 260.
 Cambay 16.

Cary 214 fn.
 Caspian Sea 73.
 Cathedral Cave of Billa Sargam 2.
 Ceylon 162, 261, 264.
 Ceylonese 135.
 Chakravarman 248.
 Chakradharpur 2.
 Chaldæa 72, 230.
 Champā city 179, 180, 261, 264.
 Chandragupta Maurya 82.
 Chavadipaleiyam 10.
 Chedi 78, 183.
 Chik Mulangi lake 2.
 Childers 191 fn., 270 fn.
 China 162, 163.
 Chitra, king 79.
 Chitrakūṭa hill 123.
 Chunda 244.
 Chrysostom 210.
 Cockburn J. 5, 6.
 Coimbatore 8.
 Colebrooke 245 fn.
 Cretan 16.
 Ctesias *See* under Ktesias.
 Cuddapah 2, 4.
 Cunningham 181, 183, 236.
 Cutch 11.
 Cuvier 19.
 Cyavana 43 fn., 63.
 Cyrus, king 163.

Dakṣiṇāpatha 95.
 Daṇḍaka forest 120, 121.
 Daniell C. 280 fn.
 Dantapura city 180—81, 262.
 Darada 210.
 Darāda 210.
 Dardiṣṭhān 210.
 Darila 108.
 Darius 74, 163, 209, 210, 261, 280.
 Darśa ~~rite~~ 141.

Daśaratha 120, 121, 122, 129, 133.
 David 70.
 Day, Dr. 69.
 Dayārāma Sahni 11.
 D'Anville 73-
 Deccan, the 71, 99 fn. 104 fn. 105 fn. 124.
 Dedan 70.
 Deir—el—Bahari 17, 72-
 Delhi 27.
 Deśaka city 181.
 Davadatta 181.
 Devapi 156.
 Dhanapāli 255.
 Dhanwantari 42.
 Dhonkenal 2.
 Digha Kārayana 185.
 Dionysia 227.
 Dioscorides 114.
 Divodāsa 27, 78.
 Dīrgha Cārāyapa 185.
 D. R. Bhandarkar 76, 271.
 Drāviḍa country 95, 181, 207 fn.
 Dravidians 163.
 Dṛṣadvati, river 81.
 Dargācārya 52.
 Dutugaimuna 135.
 Dvārāvati, port 262.

E

Eabani 17.
 East End 185.
 Edakal cave 5.
 Edda 40.
 Eggeling, Professor 166.
 Egypt 9, 14, 17, 18, 19, 20, 21, 61, 71, 72,
 74, 280.
 Egyptians 20, 21, 60, 125.
 Elam 17.
 Elliot 10.
 Elliot Smith 6.
 Erythra 210.
 Eusebius 18, 19.

Esukari 237.
 Estaşa 39.
 Ethiopia 18.
 Ethiopians 19.
 Euphrates 72, 73 fn., 77.
 Ezion—Geber 70.

Faizabad district 182.
 Farakkabad District 182.
 Fatopur Sikri 224.
 Fausboll 256 fn.
 Fawcett, F. 5 fn.
 Fergusson 10.
 Fick, Dr. 228, 257.
 Finidia (= Phœnicia) 69.
 Foulkes, T. Rev. 21, 71, 261.
 Frazer 3.
 Frazer, R. W. 61, 67.

G

Gambia, river 19.
 Gambhīrapattana, port 181, 262.
 Gandhakūṭīra monastery 228, 234.
 Ganga 22.
 Ganges canal 10.
 Gautama Buddha 253.
 Gautama, law-giver 191, 192, 194, 195 fn.,
 196, 203 fn., 210, 244, 249 fn., 250, 250
 fn., 267 fn. 274, 275, 275 fn., 276, 276 fn.,
 277, 277 fn.
 Gayā 264.
 Gāndhāra 48, 222, 261, 265.
 Gāndhārāns 40.
 Gedrosia 74.
 Geldner 26, 51, 58, 135, 156.
 Ghāt mountains 164.
 Ghātśilā 2.
 Ghoṣā 63.
 Ghoṣīla 236.
 Gilead 20.
 Girivraja 149 fn., 184.

Godāvarī, river 105 fn.
 Godāvarī lake 1.
 Golden Forest 121.
 Golden Chersonese 261 fn.
 Goldstucker 119, 269.
 Gomāl river 22.
 Gomatl, river 22.
 Gonaddha 264.
 Gonda District 182.
 Gorakhpur 131.
 Gotama (= the Buddha) 253.
 Gowland 4 fn.
 Greece 9, 21, 61, 153.
 Greeks 199, 210.
 Griffith 42 fn., 43 fn., 57, 57 fn., 58 fn., 65,
 66 fn., 68 fn., 93, 93 fn., 94 fn., 98 fn.,
 99 fn., 105 fn., 109, 112 fn., 139 fn.
 Guntur 2.

H

Hakra, river 11.
 Hall 73 fn.
 Halidda-vampśa, nigama 181.
 Hanumāna 121, 122, 124, 148, 175.
 Hansa League 266.
 Harappa 11, 13, 16, 28, 73 fn.
 Hatasu 18, 72.
 Hattigāma 264.
 Haug 34 fn., 141 fn.
 Havell, E. B. 145, 145 fn., 146, 183.
 Hazra, mountain 184.
 Hājīpura 183.
 Hebrew 21, 71.
 Heera lake 2.
 Heeren 19 fn., 20, 71.
 Herodotus 179, 202, 209, 209 fn., 210, 210
 fn., 214, 214 fn., 260, 262 fn., 289 fn.
 Hewitt 72, 163.
 Hibbert Lectures 17, 72.
 Hillebrandt 34 fn., 224 fn.
 Himalayan regions 113.
 Hindukush mountain 73.

Hippalus 74.
 Hiram 70, 71.
 Hirt, Hermann 22 fn.
 Hiuen Tsang 226.
 Hoernle A. F. R. 180 fn., 182 fn., 183 fn.
 Homer 229.
 Hopkins 67, 85 fn., 157.
 Horace 70 fn.
 Humboldt 162 fn.
 Hunt E. H. 9, 9 fn., 18.

 Iarchus 19.
 Idumeans 70.
 Illiad 229.
 Illusa 155.
 Indāpattha city 181.
 Indian Ocean 162, 261.
 Indra 9, 10, 21, 23, 24, 26, 27, 30, 31, 33, 34,
 36, 39, 40, 47, 48, 53, 55, 56, 57, 62, 69,
 75, 77, 80, 82, 87, 113, 147, 153 fn., 159,
 176, 179.
 Indrāṇi 118 fn.
 Iroquois, the 61.
 Isa 19.
 Ishmelites 20.
 Isidāsi 275.
 Isis 19.

 Jacob 21.
 Jahnus, the 156.
 Janaka, 120, 121, 156, 166, 167, 173.
 Janas ruti 89, 173.
 Janasruteya 82.
 Janmenjaya 82.
 Jarāsandha 236.
 Jāvā 152 fn.
 Jāvāla Pravahana 156.
 Jāvāla Satyakāma 156.
 Jehosphant 71.
 Jetavana 213.

Jetuttura city 181.
 Jevons 154, 154 fn.
 Jivaka 192.
 Joseph 20.
 Jubbalpur 2.
 Judea 163.
 Julius Africanus 18.
 Jumna, river 23, 181, 264.
 Jyotiṣtoma 141.

 Kabul, river 22.
 Kaikeyī 174.
 Kaegi 26, 44.
 Kaira 2.
 Kajangala, city 181.
 Kālābagh 19.
 Kalinga 18, 232, 279, 280 fn.
 Kamboja 112, 158, 265.
 Kammasadamma, city 183.
 Kanita 19.
 Kapilāvastu 181, 200, 264.
 Kapgallu 3, 5.
 Karayandra 74.
 Karnool 2, 4.
 Kathiawar 4, 11, 16.
 Kashmere 21.
 Kassites, the 13 fn., 146.
 Kasu 78.
 Kaurama, King 173.
 Kauśalyā 32, 120, 121.
 Kauśāmveya 82.
 Kauśāmvi 179, 236.
 Kauṭalya 271.
 Kantamvara 221, 265.
 Kauṭilya, 189, 268 fn., 270, 272 fn.
 Kavasha 155.
 Kākṣivan 78.
 Kālī, river 182.
 Kālī, slave-girl 255, 257.
 Kāmpila 81.
 Kāmpilya 81, 181.

Kāśī Bharadwāja 198, 211.
 Kāśī kingdom 95, 156, 181, 182, 187, 197
 243, 280.
 Kāsia 181.
 Kāśyapa Buddha 181, 255.
 Kātyāyana 141, 245.
 Kāveri, river 99 fn., 124.
 Kāveripattana 181.
 Keith, A. B. 1 fn.
 Kekaya kingdom 122.
 Kekayas, the 156.
 Kennedy 163, 163 fn.
 Kern 192 fn.
 Kharḍagiri 236.
 Khara 133.
 Khorasan 13, 17.
 Khujjuttarā 254.
 Khullakalmāṣa, city 183.
 Kiśorimohan Sen Gupta 92 fn.
 Kiṣkiṇḍhyā kingdom 95.
 Kitagiri, nigama 181.
 Kikaṭa (= Magadha) 22.
 Knox, H. 5.
 Koli city 181.
 Koliya country 181.
 Koliya city 200.
 Koliyans 200.
 Kośala 8, 95, 105 fn., 185, 187, 192, 237,
 243, 253, 255, 263, 279.
 Kośam 181.
 Kośāmvī 181, 264.
 Kosiyagotta 121, 192.
 Krumu, (= Kurru) river 22.
 Ktesias 163, 164, 260, 260 fn.
 Kubhā, river 22.
 Kukundhas, the 139.
 Kukūrabhas, the 139.
 Kulli (fabrics) 16.
 Kulluga 183.
 Kumbhakara 147.
 Kundagāma 183.
 Kuṇḍliya city 181.

Kurnool 8.
 Kurram, river 22.
 Kurunga 78.
 Kurupāñchāla country 166.
 Kurus, the 81.
 Kuśa, prince 237.
 Kuśanagara 181.
 Kuśinagara 180, 181.
 Kuśinārā 181, 264.
 Kuvera 147.
 Kymore (cave paintings) 5.

La Cuperie 162.
 Ladak 210.
 Ladders, the 73.
 Lakṣmī 142.
 Lang-pa 162.
 Lankā, city 103, 121, 146, 148, 162.
 Larkana, district 11.
 Lassen, C. 21, 21 fn. 71.
 Leormant 18, 72.
 Levant 69.
 Lichehchavis, the 252, 257.
 Limbi 16.
 Lomapāda, King 97.
 London 115, 214 fn.
 Longhurst 8 fn., 9 fn.
 Ludwig 26, 51, 52 fn. 74.
 Lydekker, R. 210.

M

Mackay, E. 17 fn.
 Macdonell 22 fn., 23 fn., 25 fn., 26, 29, 32,
 33 fn., 34, 34 fn., 35 fn., 38, 38 fn., 44, 45
 fn., 46 fn., 49, 49 fn., 54 fn., 59, 63 fn., 66
 fn., 67, 68, 74 fn., 81, 84 fn., 91 fn., 88
 91 fn., 125, 157, 164 fn., 166 fn., 174 fn.,
 fn., 245 fn.
 Madhurā city 181.
 Madhyadeśa 81.

- Madras, the 182.
 Magadha 81, 95. 181, 184, 190, 191, 192, 238.
 Mahānāma 198, 253.
 Mahāpāreva 147.
 Mahidhara 107, 132.
 Mahāgovinda 184.
 Mahārāṣṭra 76.
 Mahāvira 76.
 Mahendra 264.
 Malabar Coast 72, 163.
 Malayāchala hill 124.
 Malaya Archipelago 162 fn.
 Malladeśa 180.
 Mallikā 253.
 Manes, King 19.
 Mantharā 121.
 Manu, King 191, 147.
 Manu, the Great 28.
 Manu as Adam of the race 84 fn., 89, 90.
 Manu, law-giver 133, 248 fn. 252, 269.
 Manu, the Indian Noah 131.
 Marco Polo 164.
 Margalla spur 184.
 Marshall, Sir John 11 fn., 184 fn.
 Maski 4.
 Mathurā city 181.
 Matsya 95.
 Manbhāṇḍāra (rock carvings) 5—6.
 Mauryan 145, 166.
 Mauryas the 165, 166.
 Max Duncker 72.
 Max Muller 45, 57, 58, 94 fn., 119, 135 fn., 2 24 fn., 239 fn.
 Maya 121, 147.
 Mādura 56 fn.
 Māgadhi, river 95.
 Māhissatī city 181, 264.
 Māruts 30, 48, 75.
 Mc Crindle 70 fn., 163 fn., 202 fn., 210 fn., 262 fn., 280 fn.
 Medhyatithi 78.
 Medhājanana ceremony 217.
 Mediantish 21.
 Mediterranean Sea 69.
 Megasthenes 200, 210, 210 fn., 229, 280, 280 fn.
 Meli 16.
 Mesha inscriptions 260.
 Mesopotami 11, 14, 17.
 Mihran, river 11.
 Mirzapur 6.
 Mithilā city 182, 185.
 Mitra (god) 24.
 Mohenzo Daro 11, 12, 14, 15, 16, 17, 18, 28, 73 fn., 120.
 Montgomery 11.
 Morhana Pahar 2.
 Mrs. Manning 21 fn., 34 fn.
 Mrs. Rhys Davids 74 fn., 193, 360.
 Muir 29, 49, 49 fn., 54 fn., 58.
 Mujavant mountain 34.
 Murree ridge 184.
 Mutibas 81.
 Mysore 4.

N

- N. Dutt 192 fn.
 N. G. Mazumdar 11.
 N. N. Ghosh 264 fn.
 Nachiketas 121.
 Naisadas 81.
 Nandanakānana 147.
 Nandana, city 182.
 Nara canal, Eastern 11.
 Navagvas 20.
 Navavāstava 153 fn.
 Nāhhānediṣṭha 94. 40.
 Nāgamunḍā 253.
 Nāgojibhaṭṭa 165.
 Nālandā 264.
 Nearchos 74, 210, 226 fn., 228.
 Nebolides 17, 72, 163;
 Nebuchadnezzar 17, 72, 163.

- Nellore 2.
 Nepal 214, 236.
 Nerbuda find 1.
 Nilab, river 19.
 Nilgiri 4.
 Niveditā, Sister 148 fn.
 Noah, Indian 161.
 North America 61.
 Nuagarh 2.

 Obermaier 1.
 Oldenburg 51, 83, 231, 233 fn.
 Oldham 2 fn.
 Ophir 71.
 Grissa 205, 236.
 Osborn 1 fn.
 Oudh 81.
 Oxus 73.

 Paippalāda 107 fn.
 Paithān 182.
 Pajra 78.
 Palmyra 74.
 Pampā, river 95.
 Pañchavaṭi Forest 105 fn., 122.
 Pañchaśāradya ceremony 110.
 Pañchānana Mitra 4 fn, 5, 5 fn., 6 fn.
 Parāvṛj 63.
 Parivakra city 82.
 Parjanya (god) 31, 79, 178, 199.
 Parikṣhit 178.
 Parsu 78.
 Partabgunj 2.
 Pasenadi, King 185, 237, 253.
 Patitṭhāna city 182, 264.
 Patna Museum 7.
 Pākasthāman Kaurayān 78.
 Pāñchāla 81, 82, 156, 181, 279.
 Pāndukulis 10.

 Paṇini 114 fn., 167, 202, 213, 216, 221, 228,
 236, 248, 251, 259, 265, 268, 268 fn.,
 269, 269 fn., 274.
 Pāruṣṇī, country 40, 48,
 Pāṭaligrāma 184.
 Pāṭaliputra 184, 264.
 Pāṭaliputtaka 182.
 Percy Brown 5 fn.
 Persia 17, 73, 163.
 Persian Gulf 69, 70, 72, 73, 260, 261.
 Papis, the 74, 79,
 Persians 114, 135, 200 fn, 210.
 Philostratus 18, 19.
 Phœnicia 69.
 Phœnicians 69, 70.
 Pijavana 78.
 Pipra 26.
 Piprawah Stupa 214, 218, 229.
 Pischel 26, 65.
 Pliny 114, 135, 200 fn., 210.
 Pococke 19 fn., 20.
 Polāsapura 182, 187, 225.
 Poṭali city in Kāśī kingdom 182.
 Poṭali city in Aśmaka kingdom 182.
 Poṭana city 182.
 Prajāpati 114, 125.
 Praśasta 147.
 Prastoka 78.
 Prāpanātha, Dr. 271.
 Prākṛta dialects 269.
 Pṛthusravas 79.
 Ptolemy 162 fn.
 Pulindas 81.
 Pun 72.
 Punna 263.
 Puṇṇā 258.
 Puṇḍras 81.
 Punt 18.
 Pūrṇa 259.
 Purukutsa 153.
 Pūrṇamāsī rite 141.
 Pūṣhan (god) 35, 36, 40, 48, 112.

R

R. Śyāmā Śāstri 268 fn.
Ragozin 49, 49 fn., 67.
Raigarh 4, 5, 5 fn.
Raikka 89, 129, 173.
Rajjumālā 255.
Ramapata city 182.
Ramesa Dutt 28 fn.
Ramses 19.
Rapson 23 fn., 25 fn., 38 fn., 67 fn., 68 fn.
 81, 87 fn., 193 fn., 248 fn., 266 fn.
Rassam 17, 72, 163.
Rathavimocaniya oblations 165.
Raurava (= Roruka), city 262.
Rawalpindi 264.
Rawlinson 73 fn., 209 fn., 210 fn., 280 fn.
Rājagaha 182.
Rājagiha 182.
Rājagrha 179, 180, 182, 186, 191, 192,
 236, 256, 263.
Rājāsūya 110, 165, 174.
Rākhāladāsa Banerji 11.
Rāma 19, 95, 105 fn., 120, 121, 122, 124,
 125, 133, 142, 153, 174, 178.
Rāmakṛṣṇa, commentator 223 fn.
Rāpti, river 182.
Rāvapa 120, 121, 122, 124, 130, 140, 142,
 170, 171, 175.
Rea 7, 8 fn.
Red Sea 69, 74, 162.
Reinaud 162 fn.
Rhinocolora 70.
Rhys Davids 166, 182 fn., 183 fn., 188,
 191 fn., 197 fn., 231, 233 fn., 234 fn.,
 236 fn., 237 fn., 253, 256 fn., 262, 262fn.,
 263, 265 fn.
Ribhus 24.
Richard, F. J. 9 fn.
Ridgeway, Prof. 9.
Rijrāśva 24, 63.
Robertson 70 fn.

Rohini, river 181, 200.
Roman 66, 254.
Rome 21, 153.
Rornka, city 182, 262.
Roth, Von 49, 51, 52, 55, 128, 156, 166.
Royle, Dr. 20, 70.
Ruanwelle Dagobā 135.
Rudra (god) 36, 75, 76, 84.
Ruṣamas 78, 173.

S

S. Krishnaswami Iyenger 73.
Sabaras 81.
Sabeans 72.
Sadāmatta city 182.
Sagula, city 182.
Sahajāti 264.
Sahara, desert 19.
Sahri-Sokhta 16.
Śakula 187.
Salt Range 34.
Samarra 17.
Sambalpur 2.
Sambara, an asura 26, 27.
Samkissa city 182.
Samkīśa 182.
Sangai, river 2.
Santal Parganas 205.
Saptagu, a sage 55.
Śarkarā, nigama 182.
Saraju, river 22, 182.
Saraswati, river 22, 38, 81.
Saraswati 27.
Sasarpari 80.
Satvats 81.
Saunaka, a sage 177 fn.
Sautramāni, rite 141.
Savitar, (god) 161.
Saxony 122.
Sayce, Dr. 17, 72.
Śāgala, city 182, 264.
Śākala (= Sialkot) 182

- Śāketa, city 179, 182, 264.
 Śāketa, 200, 201, 203.
 Śālavatī 257.
 Śālātura, city 182.
 Śālindiya, village 191.
 Śāmkāśya, city 182.
 Sānchi Topes 233 fn.
 Śāntanu 156.
 Śāti 244.
 Sāyana 28 fn., 33, 46, 56, 79, 84, 89, 89 fn.,
 90, 100, 114, 128, 165, 166.
 Schiern, Dr. 210.
 Schoff 70 fn., 74 fn.
 Schrader, Otto 22 fn., 24, 45, 49, 49 fn., 50,
 130, 131.
 Scotland 10.
 Senegal, river 19.
 Setavya, city 182.
 Seth Māheṭha 182.
 Shalmanesar 163.
 Sheftovitch 146.
 Sialkot 182.
 Sidon 69, 74.
 Simrock 98 fn.
 Siṃhavāhu, King 187.
 Siṃhala, lion-prince 261.
 Sind 11, 12, 48, 66, 95, 112, 120, 153, 264,
 265.
 Sindon 11, 120.
 Sindhu, river 38.
 Singanpur 4.
 Singhbhum 5.
 Sirimā 257.
 Sistan 14, 17.
 Śiva 20.
 Śivi, country 180, 181, 220, 265.
 Sītā 105, 120, 122, 123, 124, 161, 175.
 Sītā (goddess of Furrow) 199.
 Skylax 74, 261.
 Smith, Elliot 6.
 Smith, V. A. 1 fn., 7, 7 fn., 61, 184 fn.,
 236, 261 fn.
 Soma, King 118.
 Sourāṣṭra 95.
 Souvira, 95.
 Sovira kingdom 182, 264.
 Śrāvastī, city 179, 180, 182, 185, 186, 192,
 213, 237, 243, 244, 251, 259, 263, 264,
 265, 267.
 Srukta, an asura 27.
 St. Paul 236.
 Stein, Anriell Sir 11, 14.
 Stevenson 34, 141 fn.
 Strabo 70 fn., 199 fn., 200 fn., 163, 212 fn.,
 214 fn.
 Subimal Sarkar 51 fn., 52, 57 fn., 119,
 127 fn., 128.
 Sudas 78, 156.
 Sudarśana hill 124.
 Suez 14.
 Sugriva 161.
 Suidaitissa 135.
 Sumatra 162 fn.
 Sumer 13, 17, 72, 73, 260.
 Sursumara city 182—83.
 Sumva kingdom 181.
 Sunaḥśepha 83.
 Sundas 19.
 Supara, city 260.
 Supāraga, a pilot 266.
 Supāraka, city 183, 260, 262, 263.
 Surasenas, the 181.
 Surundhana, city 182.
 Susa 14, 17.
 Suvarpabhūmi (= Burma) 261, 261 fn., 264.
 Suvarpadwipa 162, 162 fn.
 Suvarparekhā, river 2.
 Suvāstu (= Swat), river 22.
 Sūrya 39.
 Suryarikā (= Sahara desert) 17.
 Svanadratha 78.
 Svanaya 78.
 Svātivatī 183.
 Swat, river 22.

Sylvain Levi, 84 fn.
 Syncellus 19.
 Syria 73, 260.

Takkṣhaṣṭī 183.
 Talchir 2.
 Tanba Sunda 19.
 Tanjore 56 fn.
 Tarsbis 71.
 Taxila 60, 82, 183, 194, 199, 239, 264.
 Tāmralipti 264.
 Tāmraparū, river 6, 16.
 Tāmraparūdwipa (– Ceylon) 261, 261 fn.
 Telavāha river 180.
 Tennet 135 fn.
 Tepeh Musyan 17.
 Thebes 17.
 Theobald 10.
 Thor 40.
 Tigris, river 72, 73 fn.
 Tilak, B. G. 91 fn.
 Tinnevelly cemeteries 6, 8.
 Tinnevelly 4, 16, 18.
 Tirhut 81.
 Tirindra 78.
 Tirthikas 186.
 Tobit 106.
 Touche La 4 fn.
 Trasadasya 78, 152.
 Trisanku 133.
 Trita 30.
 Tugra 68.
 Turvasas 153 fn.
 Tvaṣṭi 62.
 Tvaṣṭu 141.
 Tylos, isle 70.
 Tyre 74.

U. N. Ghosal 88, 88 fn.
 U. S. A. 155.

Udayagiri 236.
 Udayana, King 181, 236.
 Udicca Brahmins 238.
 Ugrajit 177.
 Ugrampasyā 177.
 Ujjain 183, 187, 264.
 Ukkatṭha, city 183.
 Ukthya, rite 141.
 Ur 13, 17, 72, 163.
 Usinaras, the 81.
 Uttarakośala 182.
 Uttarakurus 81.
 Uttara Madras 81.
 Uttara Mathurā 183.
 Uttara Pāñchāla 243, 265.

Vaidarva 82.
 Vajjis, the 184.
 Vala (Asura chief) 69.
 Valarāmapur 182.
 Vanga 95, 187.
 Vanijagāma 183, 257.
 Varapāvati, river 158.
 Varuṇa (god) 24, 56, 67, 79.
 Vasas, the 81.
 Vasiṣṭha 68, 122, 191, 191 fn., 192, 193,
 193 fn., 194, 195, 196, 226, 229, 249,
 249 fn., 250, 250 fn., 267 fn., 271 fn.,
 274, 275, 276, 276 fn., 277, 277 fn.
 Vatsya, country 236.
 Vājapeya, ceremony 110, 141.
 Vālmiki 105 fn., 156.
 Vālī 129.
 Vārāṇasī 180.
 Vāsavakhattiya 253.
 Vāyu (god) 34, 112.
 Vedicā 264.
 Vendidad 23.
 Veśālī 183, 185, 192, 244, 264.
 Vibhīṣaṇa 147.
 Videha 81, 156, 166.

Vittura 252.
 Vimala 257.
 Vincent, Dr. 20.
 Vindhyan regions 113, 158.
 Virgil 70 fn.
 Visnu 30.
 Vitakha 182, 217.
 Vitapala 63.
 Viswantara, King 156.
 Viswantara, prince 274 fn.
 Viswamitra 61, 64, 82, 156.
 Vitwakerman 147.
 Visvardipa, a sage 141.
 Vivindu 78.
 Vitkyas 130, 137, 138, 165, 226.
 Vrishhagir 24.
 Vitra, asura chief 80, 69, 96, 176.
 Vitras 26.

W

Wahindah 11.
 Walhouse, N. J. 8 fn.
 Walker 247.
 Wasiristhan 14.
 Weber 58, 98 fn., 150 fn., 172, 173 fn.
 West End 185.
 Wilkinson 21.
 Wilson 27, 27 fn., 28 fn., 65, 77, 79, 89 fn.,
 210.

Winckler, Dr. 163.
 Woolney 13, 17.
 Wynaad 4, 5.

X

Xerxes, King 214.

Y

Yama 119, 128, 174.
 Yamuna 23.
 Yasodharā 181.
 Yavadwipa 162, 162 fn.
 Yādava prince 66.
 Yādavas, the 78, 153 fn.
 Yādavaprakāśa 183 fn.
 Yājñabalkya 111, 170.
 Yāska 89 fn., 156.
 Yeats, J. 162.
 Yemen 18, 72.
 Yimir, giant 61.
 Yindhajit, Kekayarāja 120, 121.

Z

Zagros Range 73.
 Ziggurats 230.
 Zimmer 25, 25 fn., 52, 58, 74, 91 fn., 127,
 142 fn., 150 fn., 227 fn.

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